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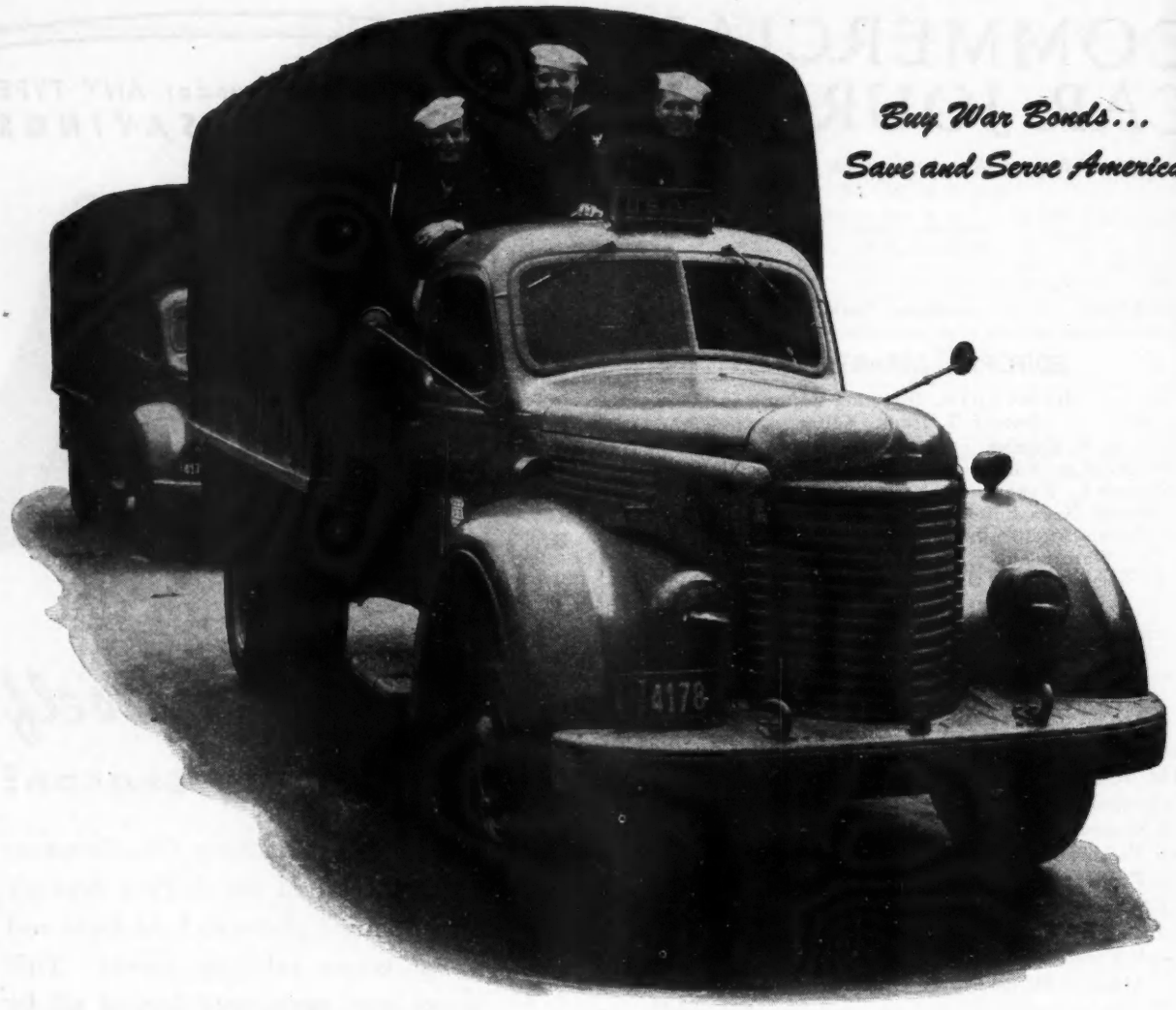
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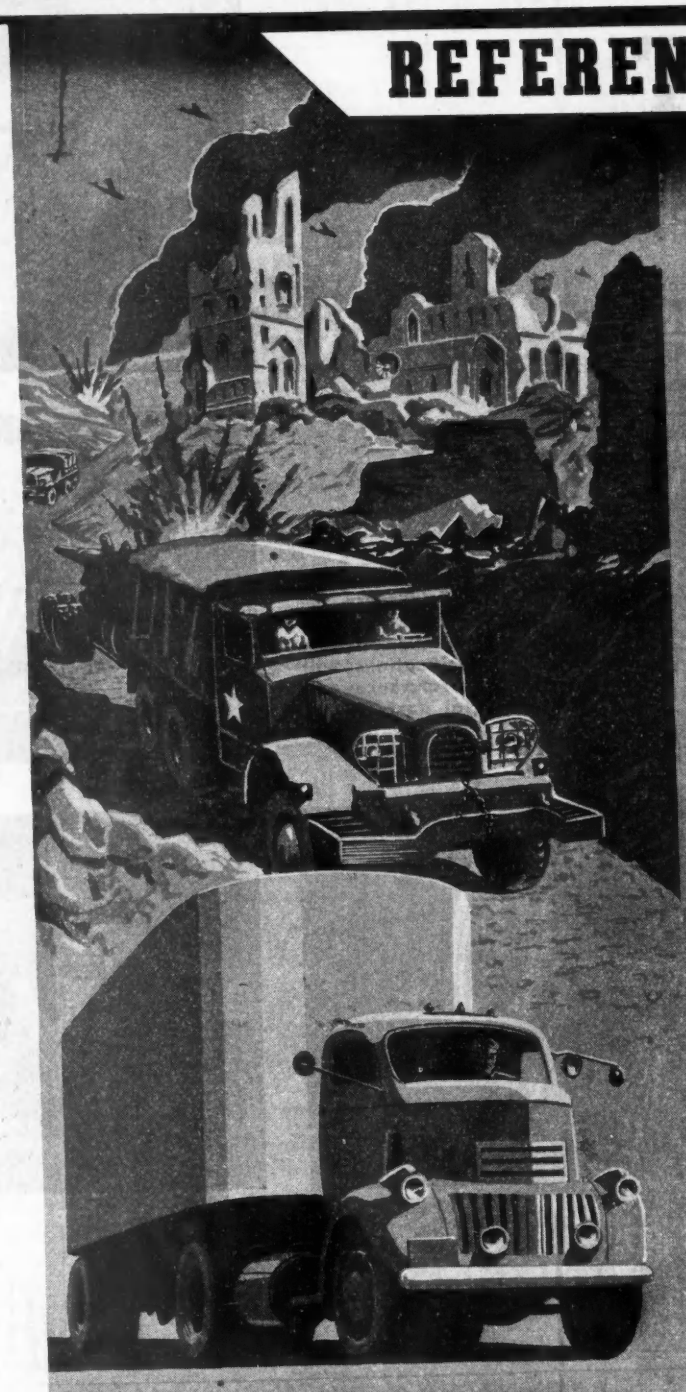
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1944 FLEET OPERATORS' REFERENCE ANNUAL



BACK THE ATTACK
KEEP 'EM ROLLING

The purpose of this reference annual is to help fleet operators with their maintenance problems. Currently, these problems are more difficult than ever before. Only by studying this issue carefully can operators determine the kind and variety of helping data it contains. Many manufacturers contributed invaluable assistance which deserves grateful acknowledgment.

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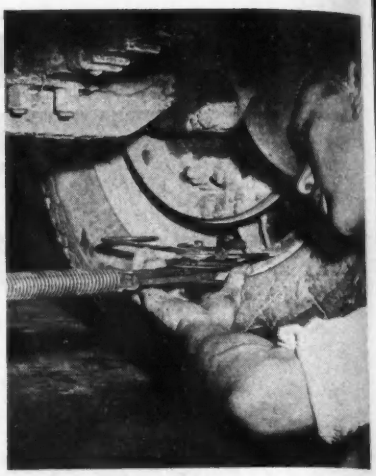
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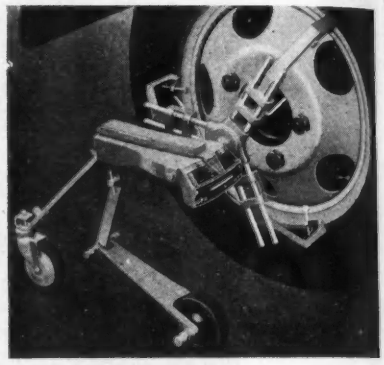
COMMERCIAL CAR JOURNAL

FRONT END ALIGNMENT *Specifications*

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING

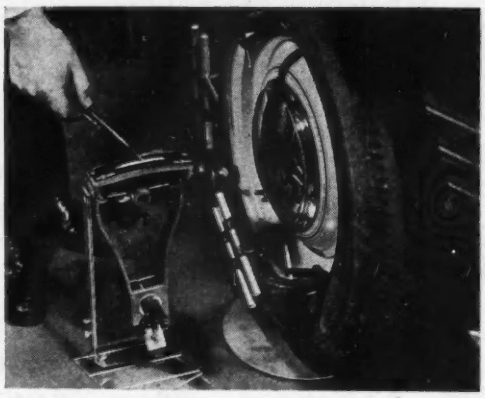


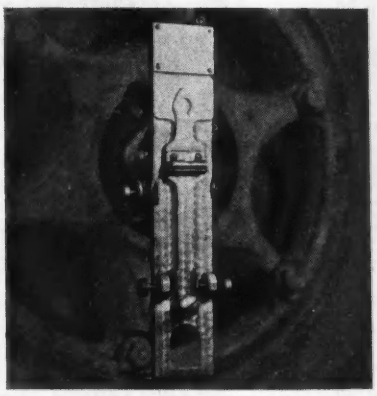


Correct front-end alignment at all times results in safety and economy of operation. During war time such factors as conservation of vital materials and the necessity of keeping essential transportation rolling provide additional important reasons why alignment should be checked and adjusted periodically to the engineered standards.

The data provided in these tables are supplied by the respective truck manufacturers. Adjustments made to these specifications will assure maximum performance and conservation of vital parts of the steering control. Tire mileage also will show great improvement.







TRUCK MAKES AND MODELS	TOE-IN (In inches unless otherwise shown)	CAMBER (In degrees	CASTER (In degrees)	KING PIN SLANT (In degrees)
AUTOCAR				
RG, RH, RHT, 6RH, UT, UNF, UTT, UNFT (1935-36)	0–¼*	1	2½	8
D, 9T, 6D, UDT, 6UDF, RHD (1935-36)	0–¼	1	1¾	8
DF, DFT, 6DF, DH, S (1935-36)	0–¼	1	1	8
N (1935-36)	0–¼	1	½	8
NT, DP (1935-36)	0–¼	1	1¼	8
NF, 6N (1935-36)	0–¼	1	¼	8
NFT (1935-36)	0–¼	1	¾	8
T, 6T, UDFT, UNT, 6NF (1935); 6NF (1936)	0–¼	1	1½	8
TT, UDP (1935); T, 6T, UDFT, UNT, TT, UDF (1936)	0–¼	1	2	8
UDF (1935-36)	0–¼	1	1¾–2¼	8
UN (1935-36)	0–¼	1	3¼	8
UNFT, 6UN (1935-36)	0–¼	1	2¾	8
6UT (1935-36)	0–¼	1	¼N	8
C (1935-36)	0–¼	1	0	8
UD, 6UD, US, UNF (1936)	0–¼	1	2¼	8
TF, 6TF (1936)	0–¼	1	½N	8
TFT (1936)	0–¼	1	¾–1N	8
6X2RL (1937)	0–¼	1	2½	8
RM, RL, RLD (1937); A, 6X2RL (1938)	0–¼	1	2¼–2½	8
D, 2TR, 3TR, 4TR, 6X2DF (1937); D, 3TR (1938)	0–¼	1	2 –2¼	8
RMT, 1TR (1937); 1UTR, 2UTR, 3UTR (1937-38); 4TR, RLD, 6X4DF (1938)	0–¼	1	2	8

TRUCK MAKES AND MODELS	TOE-IN (In inches unless otherwise shown)	CAMBER (In degrees	CASTER (In degrees)	KING PIN SLANT (In degrees)
AUTOCAR—Cont.				
DF, DP (1937-38)	0–¼	1	1¾–2	8
UD (1937); RMT, 1TR, UD, 6X2UD (1938)	0–¼	1	1½–2	8
5TR (1937)	0–¼	1	1¼–2	8
6X2UD (1937); 4UTR (1937-38); DH (1938)	0–¼	1	1¼–1¾	8
N (1937-38)	0–¼	1	1¼–1¾	8
DH (1937); NF, 5UTR (1937-38)	0–¼	1	1¼–1½	8
T (1937)	0–¼	1	¼–1	8
6X2T (1937-38); 6X4TO (1938)	0–¼	1	¾	8
6X2NF (1937)	0–¼	1	½– ¾	8
CP (1937)	0–¼	1	¼	8
S, 6X2UT (1937)	0–¼	1	0 – ¼	8
6X2UNF (1937)	0–¼	1	N¼– ¼	8
UNF, UDP, US (1937); C, 6X4TC (1938)	0–¼	1	0	8
UN, UT (1937-38); UNF, UDP, 6X2UN, 6X2UNF, 6X2UT (1938)	0–¼	1	N¼–0	8
UDF, 6X2UN (1937); UDF, US, 6X4TD, 6X4UTO, 6X4UTD (1938)	0–¼	1	N¼	8
B, RM, RL, 2TR (1938)	0–¼	1	2 –2½	8
5TR, 6X2DF (1938)	0–¼	1	1¾–2¼	8
UA (1938)	0–¼	1	1½–2½	8
UB (1938)	0–¼	1	1½–2¼	8
T, 6X2NF (1938)	0–¼	1	¾–1¼	8

N—Negative P—Positive T—Toe-out *—= 1 degree

TRUCK MAKES AND MODELS	TOE-IN (In inches unless otherwise shown)	CAMBER (In degrees	CASTER (In degrees)	KING PIN SLANT (In degrees)
AUTOCAR—Cont.				
A, B, RL, RB (1939); C10, C20, C30, C40 (1940-43)	0–1/4	1	1/4–1 3/4	8
RLS, DF, 6X4DF, URB, URL, URLS (1939)	0–1/4	1	N1/4–1 1/4	8
N, NF, T, 4TR, 5TR, 6X2NF, 6X2T, UA, UB, 1UTR, 2UTR, 3UTR, 6X2UD (1939)	0–1/4	1	N1/2–1	8
D, RFT, 1TR, 2TR, 3TR, RLD, 6X2DF (1939); C10T, C20T, C30T, C40D, C4064, C60, C7062, C7064, C70, U4062 (1940-43)	0–1/4	1	0 –1 1/2	8
DP, DH, UD (1939); U60, C70D, U7064 (1940-43)	0–1/4	1	N3/4–3/4P	8
S, C (1939); C80D, C90D (1940-43)	0–1/4	1	N1 1/2–0	8
6X2RL (1939); C4062 (1940-43)	0–1/4	1	1/2–2	8
6X4TO (1939)	0–1/4	1	N1–1/4P	8
6X4TC (1939); C8064, C9064, DU100T (1940-43)	0–1/4	1	N1–1/2P	8
6X4TD, UDF, UN, UNF, 6X2UN, 6X2UNF (1939); U80D, U8062 (1940-43)	0–1/4	1	N1 1/4–1/4N	8
UT, 4UTR, 5UTR, 6X2UT (1939); U90, U9062 (1940-43)	0–1/4	1	N1 –0	8
UDP, 6X4UTO (1939); U60D, U8064 (1940-43)	0–1/4	1	N1 1/2–1/2N	8
US, 6X4UTD (1939); U70, U80, U80D, U8062, U90D, U9064 (1940-43)	0–1/4	1	N1 1/4–1/4N	8
4X4N, 4X4S (1939)	0–1/8T	1	5 –7	8
U10, U20 (1940-43)	0–1/4	1	N1 1/2–1 1/2P	8
U10T, U20T, U30T, U40T, U40D, U7062, C80, C8062, C90, C9062 (1940-43)	0–1/4	1	N1 1/2–1P	8
U30, U40 (1940-43)	0–1/4	1	N1 1/4–1 1/4P	8
C60T, C70T, C80T, C90T (1940-43)	0–1/4	1	1 –2	8
C7044, C8044, C9044, DC10044 (1940-43)	1/8T	0	3 –6	0
DC100D, DC10064, DC10062, DU10062, DU10064 (1940-42)	0–1/4	1	N2 1/2–N1 1/2	8
C40T, C50D, C50T (1940-42)	0–1/4	1	0–1 1/2	8
C40T (1943)	0–1/4	1	1–2	8
U90T (1943)	0–1/4	1	0–1	8
DC100T (1940-43)	0–1/4	1	1/2–1 1/2	8
C50, U50 (1940-42)	0–1/4	1	N1/4–1 1/4P	8
C6044 (1940-42)	1/8T	0	2 1/2–6	0
DC100D, DC10062, DC10064 (1943)	0–1/4	1	N2 1/2–1N	8
U60T, U70T, DC100T (1941-43)	0–1/4	1	1/2–1 1/2	8
U80T (1941-43)	0–1/4	1	0 –1	8
C50T, C70T, C90T (1944)	0–1/4	1	1 –2	8
C50 (1944)	0–1/4	1	N1/4–1 1/4P	8
C70 (1944)	0–1/4	1	N1/2–1P	8
C90 (1944)	0–1/4	1	N3/4–3/4P	8
DC100T (1944)	0–1/4	1	1/2–1 1/2	8
DC10062, DC10064 (1944)	0–1/4	1	N2 1/2–1N	8
BANTAM 60	1/16–1/8	1/2	11	11 1/2
65	1/16–1/8	1 1/4	15	11 1/2
BROCKWAY				
80, 90 (1932-33)	1/16–1/8	2	1 –2	9
120, 140 (1930-33); 100, 150 (1933); 90X, 96, 110, 125X, 130, 145, 150X4, 150X5 (1935)	1/16–1/8	1	1 –2	7
141, 170, 195, 220 (1930-33); 160, 260 (1932-33); 160X, 165X, 190X (1935-41); 162, 166, 170X, 175X, 195X, 220X, 240X, 260X (1935-42)	1/16–1/8	2	1 –2	0
87, V1200 (1935-36); 125X, 130, 145, 150X4, 150X5, 96, 110 (1936-41); 78, 83, 88, 92, 94, 112, 128, 146, 147, 152, 153, 154, 156 (1936-42)	1/16–1/8	1	1 –2	8
CHEVROLET				
1/2-Ton (1935-42); 3/4-Ton (1937-42)	1/8–1/4	1/2–1 1/2	1 1/4–2 1/4	7 1/6*
1-Ton (1937-38)	1/8–1/8	1/2–1 1/2	1 1/4–2 1/4	7 1/6*
1-Ton (1939-42); 1 1/2-Ton (1935-42, 44)	1/8–1/8	1/2–1 1/2	1 1/2–2 1/4	7 1/6*
1 1/2-Ton C.O.E. (1940-42)	1/8–1/8	1/2–1 1/2	2 1/2–3 1/2	8*
CORBITT All 2-wheel drive (1936-38)	1/8–1/8	1	1 1/2–2 1/2	8
All 2-wheel drive (1939-44)	1/8–1/4	1	2 –3 1/2	8
All front-wheel drive (1939-44)	1/8–1/4	0	5 –7	0
DIAMOND T				
210, 211, 226	1/8	1	1 1/2	9
241, 261	1/8	2	2 1/2	9
311, 326B, 325DR, 351, 376	1/8	2	2 1/2	7 1/2
410A	1/4	2	3	7 1/2
425, 510, 525, 603A, 801A, 740, 750	1/4	2	3	0
1515, 1201, 1203, 1602A, 1603, 2501	1/4	2	4 1/2	0
243, 311C, 312, 351C, 352 (1935	1/8	2	2 1/2	7 1/2
412B, 412DR, 512B, 512DR (1935)	1/8	1	2 1/2	7 1/2
211A, 220, 227 (1935); 212A, 212B, 221, 228 (1936-37)	1/8	1	1 1/2	9
244, 313, 320, 353, 360 (1936-37)	1/8	2	1 1/2	8
412B, 412DR, 512B, 512DR (1936-37)	1/8	1	2 1/2	8
80 (1936-37)	1/8	1	3 1/2	9
80, 301, 304 (1938); 201, 305, 306, 308SC (1939-42)	1/8	1	4 2/3	9
404SC, 509SC, 612SC, 614SC, 404, 405, 406, 513, 615 (1938-42)	1/8	1	1 1/2	9
509, 611, 612, 613, 614, 513, 401, 402, 507, 607, 609, 508, 610, 404C, 509C, 513C, 612C, 614C (1938-42)	1/8	1	1 1/2	8 1/2
412DR, 512B, 512DR, 805H, 805W, 805B, 806BW, 805DR, 805DRW, 806H, 806W, 807W, 808W, 900W (1938-40)	1/8	1	2 1/2	8
802, 803, 804, 803C, 804C, 615C, 803C, 804C (1938-42)	1/8	1	1 1/2	8
201C, 305C, 306C (1940-42)	1/8	1	1	9
DODGE				
KC, KCL (1935)	1/16	1	2	
KH31A, KH32A, KH33A, K32A, K33A, K34A (1935)	1/16–1/8	2	1 1/2	
LE-30, LE-31, LE-32, FD3-29, FD3-36, FD3-62, LF-35, LF-36, LF-37, FD4-29, FD4-36, FD4-62, LF-38, LF-39, FDD4-62, FDD4-85 (1936)	1/16–1/8	2	1 1/2	7
K45A, K46A, K47A, K48A (1935)	1/16–1/8	2	1 3/4	7
LH-45, LH-46, LH-47, LH-48, FD6-36, FD6-51, FD6-12, FD6-60 (1936)	1/16–1/8	2	1 3/4	7
K52 Special (1935)	1/8	2	3 1/2	9
K60A, K61A, K62A (1935); LM-70, LM-71, LK-60, LK-61, LK-62, LK-63 (1936); ML, MK (1937)	1/16–1/8	1	2	8
RL, RK (1938); TL, TK, TLD, TKD (1939)	1/16–1/8	1	2	8
VL, VK, VLD, VKD, WL, WK, WLD, WKD (1940-42)	1/16–1/8	1	2	8

TRUCK MAKES AND MODELS	TOE-IN (In inches unless otherwise shown)	CAMBER (In degrees	CASTER (In degrees)	KING PIN SLANT (In degrees)
DODGE—Cont.				
LC, FD1-16	1/8	1	2	9
MC, FE1-16, PT-50, MD, FE2 (1937); RC, RD (1938); TC, TD-15, TD-20, TD-21 (1939); VC, VD, WC, WD	1/8	1 1/2	2	4
ME, FE3, MF, FE4 (1937); RE, RF (1938); TE, TF, TG, TH (1939); VF (1940); WF (1942)	1/16–1/8	2	1 1/2	7
MG, MH, FE6 (1937); RG, RH (1938); VM, VG, VH (1940); WFM, WG, WH, WGM, WHM (1942)	1/16–1/8	2	2	7
MO, MP (1937); RO, RP (1939)	1/16–1/8	1	2 1/2	8
FEDERAL				
X, X8 (1930-36)	1/4	1	2 3/4	0
(1933)	1/4	2	3 1/2	0
A7, A8, 30, 36, 37, 40 (1931-35)	1/4	2	3	7 1/2
15A, 15B, 15X, 20A, 20B, 20C, 21, 22 (1933-34)	1/4	1	1 3/4	7 1/2
25A, 25B (1933-34)	1/4	2	1 3/4	7 1/2
C7, C7W, C8, C8W (1934-36)	1/4	1	2 1/2	8
15D, 18D, 20D, 25D (1935)	1/4	1	1 3/4	7 1/2
T10B, T10W (1937)	1/8	1	3	8 1/2
X8, X8R (1937)	1/16	1	2 3/4	0
10E, 9, 9E, 11, 11E, 15D, 18D, 20D, 25D, 28D, 29D, 40E, 50E, 50H, C7, C8, C7W, C8W (1936-38)	1/8	1	3	8
11, 11K, 12, 12K, 14, 14K, 15, 15K, 18, 18K, 20, 20K 25, 25K, 29, 29K, 35, 40F, 45, 50F, 55, 62, 63, 65, 66, 75, 75K, 80, 80K, 85, 85K, 89, 89K, 90, 92, 94	1/8	1	3	8
7, 8	1/8	1	3 1/2	8
18M, 29M, 45M, 55M, 60M (1944)	1/16	1	3	8
FORD				
A Commercial Car (1928-31)	1/8	2–1/4	6 1/2–3 1/2	7
AA Truck (1928-31)	1/8	2–1/4	5 –3	7
B (4 and 8 cyl.) Commercial Car (1932)	1/8	2–1/4	9 –4 1/2	7
BB (4abd and 8 cyl.) Truck (1932-34)	1/8	2–1/4	5 –3	7
46 Commercial (1933-34); 50 Commercial (1935)	1/8	2–1/4	9 –4 1/2	8 1/4
51 Truck (1935-36)	0	3/4–1/4	5 –3	8 1/4
67 Commercial Car (1936)	1/8	3/4–1/4	9 –4 1/2	8 1/4
73, 77 Commercial Car (1937)	1/8	1–1/4	9 –4 1/2	8 1/4–8
75, 79 Truck (1937)	0	3/4–1/4	5 –3	8 1/4–8
81T, 817T (1938); 91T, 99T, 917T, 997T (1939) Trucks	0	3/4	5	8 1/4
81Y, 82Y (1938); 91Y, 92Y (1939) 1-Ton	1/10	3/4	8	8
81C, 82C (1938); 91C, 922C (1939) Commercial	1/8	1	8	8
911W, 991W, 91W, 99W, 917W (1939) (C.O.E.)	0	3/4	1 –3 1/2	8 1/4
O18T, O98T, O1T, O9T (1940 Reg.)	1/8	3/4	3	8 1/4
O1W, O9W, O11W, O91W (1940 C.O.E.)	1/8	3/4	1 –3 1/2	8 1/4
P2D, O1D, O2Y, O1Y (1940 3/4-and 1-Ton)	1/8	3/4	3	8
O22C, O1C (1940 Comm.)	1/8	3/4	8	8
118T, 119T, 11T, 19T (1941 Reg.)	1/8	3/4	3	8 1/4
11W, 19W, 111W, 191W (1941-42) (C.O.E.)	1/8	3/4	4 1/2	8 1/4
110, 11Y, 1NY (1941-42 3/4-and 1-Ton)	1/8	1	3	8
11C, 1NC (1941-42 Comm.)	1/8	1	8	8
494T, 498T (1944)	1/16	3/4	3	8 1/4
FWD				
HS, HA, HR, HG, MJ6, M6, M7, M10, MJ6X6, M6X6, T-26, T-30, T-32, T-60, T-65	1/8	1 1/2	2	4 1/2
CU, CUA, SU, SUA, YU	1/8	1 1/2	2	0
GENERAL MOTORS				
T14 (1936-37)	1/8–1/8	1 1/2	1 3/4	7 1/4
T16 (1936-37); T16H (1936)	1/8–1/8	1 1/2	1 1/2	7 1/4
T18, T18H, T46, T61, T61H (1936-37)	1/8–1/4	1	1 1/2	8
T23, T23H, T33, T33H (1936-37-38)	1/8–1/4	1	1 1/2	8
F16, F16H, T16H, F23, F23H (1937-38)	1/8–1/4	1	1 1/2	8
F18, F18H, F33, F33H, F46, F61, F61H (1937)	1/8–1/4	1	1 1/2	8
T14, T145, T15, T155 (1938)	1/8–1/8	1 1/2	2 3/4	7 1/4
T16 (1938)	1/8–1/4	1 1/2	2 3/4	7 1/4
T18, T18H (1938)	1/8–1/4	1	2	8
F18, F18H (1938)	1/8–1/4	1	1	8
F33, F33H (1938); F46, F61H (1936)	1/8–1/4	1	1 1/2	8
T46, T61, T61H (1938)	1/8–1/4	1	1 3/4	8
AC-500, AC-550, AC-600, AC-650 (1939-42)	1/8–1/4	1	1 1/2	8
AF-500, AF-550 (1939-42); AF-600, AF-650 (1939-41)	1/8–1/4	1	1 1/2	8
AC-700, AC-800, AC-850 (1939-42)	1/8–1/4	1	3/4	8
AF-700, AF-800, AF-850 (1939-42)	1/8–1/4	1	3/4	8
AC-100, AC-150 (1940)	1/8–1/8	1 1/2	2 3/4	7 1/4
AC-250, AF-240 (1940)	1/8–1/8	1 1/2	2 1/2	7 1/4
AC-300 (1940)	1/8–1/4	1 1/2	2 3/4	7 1/4
AC-350 (1940)	1/8–1/4	1	3/4	8
AF-300, AF-310, AF-350, AF-400, AC-400 (1940)	1/8–1/4	1	1	8
AC-450, AF-450 (1940)	1/8–1/4	1	1 1/2	8
AF-240 (1941-42)	1/8–1/8	1 1/2	1 1/4	7 1/4
CC-100 (1941-42)	1/8–1/8	1 1/2	3	7 1/4
CC-150, CC-250 (1941-42)	1/8–1/8	1 1/2	2 3/4	7 1/4
CC-260, CC-300 (1941-42)	1/8–1/4	1 1/2	3	7 1/4
CC-350, CC-400 (1941-42)	1/8–1/4	1	1 1/2	8
CF-300, CF-350, CF-400 (1941-42)	1/8–1/4	1	1	8
CC-450, CF-450 (1941-42)	1/8–1/4	1	1 1/2	8
AC-520, AC-620, AF-520, AY-700, AY-800, AY-850 (1942)	1/8–1/4	1	1 1/2	8
AC-720, AC-750, AC-770 (1942)	1/8–1/4	1 1/4	3/4	8
AF-600, AF-620, AF-650 (1942)	1/8–1/4	1 1/4	1 1/2	8
ACX-870, ACX-890, AF-720, AF-750 (1942)	1/8–1/4	1	3/4	8
GRAMM				
71, 76, 86, 96, D71, D76, D86, D96 (1940-41)	1/8	1	2	8
15, 25, 30, 40, 45 DJX40, 21, 31 (1936-41)	1/8	1	1 3/4	9
50, 55, 70, 75, 85, DJX55, DJX70, DJX75, DJX85 (1936-39); 56, D56 (1940-41)	1/16	1	2	8
11 (1940-41)	1/8	1 1/2	2	7
41, 46, D46 (1940-41)	1/8	1	1 3/4	8
HUG				
23, 42, 23W, 42W CB8P	1/8–1/8	2	1	7 1/2
43, 70, 85W, 87, 87W, 98, 99, 99S, 15W, 19W, 83W	1/8–1/8	2	1	0
15, 19, CB6P, All wheel drives	1/8–1/8	2	1	8 1/2

N— Negative P—Positive T—Toe-out *—± 1 degree

CONTINUED ON NEXT PAGE

FRONT END ALIGNMENT SPECIFICATIONS (CONTINUED)

TRUCK MAKES AND MODELS	TOE-IN (In inches unless otherwise shown)	CASTER (In degrees)	CAMBER (In degrees)	KING PIN SLANT (In degrees)
INDIANA				
47DR, 43DR, 19DR, 17DR, 17ADR, 17, 17A	0–1/8	2	1½	0
95DR, 95, 95W75, 95SBT151, 14B, 16, 85	0–1/8	1	1½	8
17ASW151, 17SW251, 17SBT251	0–1/8	1	1½	0
84, 86, 87	0–1/8	1½	1½	7
INTERNATIONAL				
C1, C5, C15	1/8	2	2	7½
M2, C10, C20, M3	1/16	1	2	8
A1, A2, B2, A4, C50, A5, A6, C55, C60	1/16	1	2½	8
B3, C30, B4	1/16	1	1	8
C35, CS35, C40	1/16	1	1¼	8
W1, W2	1/32	1	0	8
A7, A8	1/32	1	½	8
D2, D5, D15, D2M	1/16–1/8	2	1–2	7½
D30, DS30, D30B, DS30B, D15M, D35, DS35, D35B, DS535B, D40, DS40, D40B, D186T, DS186T, D216T, DS216T, D300, DS300	1/16–1/4	1	2–3	8
D50, DR50, DS50, D60, DR60, DR70, D246T, DR246T, DS246T, D246F, DR346T, D346F, DR426F, D500, DR500, DS500, DR700	1/16–1/8	1	½–2	8
AR626F	1/16–1/8	1	0–1	8
K1, K2, K3 (1941–42)	1/8–1/16	2	2–3	7½
K4, KS4, K5, KS5 (1941–42)	1/16–1/8	1	2–3	8
K5-COE, KS5-COE, K6, KS6, K-6-T, KS-6-T, K-6-F, K7, KS7 (1941–42)	1/16–1/8	1	2–3	4
K7-COE, KS-7-COE (1941–42)	1/16–1/8	1	1½–1¾	4
K8, KS-8, KR8, K-8-T, KS-8-T, KR-8-T, K-8-F, K-8-COE, KS-8-COE, KR-8-COE, K-10, KR-10, KS-10, KR-11, KS-11, KR-11-T, K-11-F, KR-11-COE, KS-11-COE,KR-12-F (1941-42) KR, KS11 (1944)	1/16–1/8	1	1½–1¾	4
KENWORTH				
513, 514, F209 (1936-37)	1/8–3/32	0	5	0
513, 514 (1938); 539, 540, 541, 542 (1938-42); 552 (1941-42)	1/8–3/32	0	4½–7	0
All others (1936-42)	1/8–1/4	1	1	8
523, 524, 528, 548 (1944)	1/8–1/4	1	1	8
552 (1944)	1/8–1/16	0	5	0
LA FRANCE-REPUBLIC				
All models	1/8–3/16	1	1½–2	8
MARMON-HERRINGTON				
All Ford 1½-ton models (1936-44)	0–1/8	0	1½	0
All LD models (1936-44)	1/16–1/8	0	1½	8¼
All other models	0–1/8	0	4	0
OSHKOSH				
JCB, JD, W-100, W-200 (1940-41)	0–1/8	1½	1	8½
WLX, WLD, B3S, B3D, C3S, C3D, R3S, FC35, FB35, FS, FC, FB	0–1/8	1½	3½	0
W-100, W-200 (1942); W-2300, W-300, W-400, W-500, W-600, W-700	0–1/8	1	1	3
W-900, BG3, GD	0–1/8	1½	1½	6
W-800	0–1/8	1½	1	6
W906, W1400	0–1/8	½	1	3
PETERBILT				
344DT, 354DT (1944)	0–1/8	1	1½	8
REO				
1A4, 1B4, 1B4R, 1B4Y, 1C4, 1D4, 1D4R, 1D4Y, 1D4M, 2B4, 2B4R, 2D4, 2D4R, 2L4, 2L4C, 2LM, 1L5 (1935)	1/8–1/4	1½	¾	8½
2L4H, 21MH, 2H, 2HR, 2J, 2JR, 2K, 2KR, 3H, 3HR, 3J, 3JR, 3K, 3KR, 3M, 3MR, 3L6, 3L8, 3LC6 (1935)	1/8–1/4	1	1½	8½
4H, 4WH, 4J, 4WJ, 4K, 4WK, 4M, 4WM (1935)	1/8–1/4	1	1¼	8½
S4P (1935)	0–1/8	1½	3½	8
6AP (1936)	0–1/8	1½	2½	8
1A4, 1A4H, 1CA, 1C4H, 1B4, 1B4H, 1D4, 1D4H, 2D4, 2B4, 2LC4, 2H5, 2J5 (1936)	1/8–1/4	1½	¾	8½
2D4M, 2DM4H (1936)	1/8–1/4	1	¾	8½
3H5, 3J5, 3K5 (1936)	1/8–1/4	1	1½	8½
3HR5, 3JR5, 3KR5, 4J5, 4K5 (1936)	1/8–1/4	1	1¼	8½
450, 650 (1937)	0–1/8	1½	2	8
475, 675 (1937)	0–1/8	1½	2	7
3P7 (1937)	1/8–1/4	1	½	8½
1A4, 1A4H, 1C4, 1C4H, 1B4, 1B4H, 1D4, 1D4H, 2B4, 2D4, 1L5, 2L4, 2L4H (1937-38)	1/8–1/4	1½	¾	8½
2H5, 2J5 (1937-38)	1/8–1/4	1	¾	8½
3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5 (1937-38)	1/8–1/4	1	1½	8½
4H5, 4J5, 4K5, 36H, 2L7M, 2L7MH, 3L6H (1937-38)	1/8–1/4	1	1¼	8½
1B7M, 2B7M (1938)	1/8–1/4	1	1	8½

TRUCK MAKES AND MODELS	TOE-IN (In inches unless otherwise shown)	CAMBER (In degrees)	CASTER (In degrees)	KING PIN SLANT (In degrees)
REO—Cont.				
19, 20, 21, 22, 23 (1940)	0–1/8	½–1	¾–1	8
19, 20, 21, 22, 23, 4D19, 6D19, D20, OSL-41, NWL-41 (1941-42); 23H, 25, 27 (1942)	0–1/8	1	¾–1	8
19BHS, 19CHS, 20XHS (1944)	0–1/8	1	¾–1	8
STERLING All models	1/8–3/16	1	1½–2	8
STEWART 41H, 46H, 47H (1935-36)	1/32–1/16	1	0	9
18XS, 48-8, 58X (1935-36)	1/32–1/16	2	2½N	7½
18XS, 32X, 48-8, 58X (1935-36)	1/32–1/16	2	1½N	7½
27XS, 31X (1935)	1/32–1/16	1	½	8
29XS, 32X (1935)	1/32–1/16	2	1½N	7½
38-8, 38-6 (1935-36)	1/32–1/16	1	1½N	8
40H, 60H (1935-36)	1/32–1/16	1½	1½	7
46HB, 48HB, 47HB, 49HB (1935-36)	1/32–1/16	2	½N	7½
48H, 50H (1935-36)	1/32–1/16	2	1¾N	7½
49H (1935-36)	1/32–1/16	2	0	7½
40HC, 60HC (1937)	0	1½	1¼–1½	7
61H, 47A, D10A, 47A (1937-38)	0	1	1¼–1½	8½
45A (1937-38); 45AL (1938)	0	1	1¼–1¼	9
49A, 50A, 51A, D30A (1937-38)	0	2	1½–1¾	8½
58A, 59A (1937-38)	0	2	1¾–2	8½
36-6, 31X (1937-38); 38A (1940-42)	0	2	1 –1¼	8
47AB, 49AB, 51AB	0	1	1½–2	8½
49A (1940-42)	0	2	1½–1¾	9
58A, 59A (1940-42)	0	2	1¾–2	8
STUDEBAKER				
S20, S30 (Before serials 3401715 and 3425745) S40, S50, S60, S41, S51, S61, S120, S130, S140, S150, S6, S8 (1931-33)	1/16–1/8	0-1	¼–¾	8
S20, S30 (After serials 3401715 and 3425745) S21, S31, S2, S3 (1931-33)	1/16–1/8	0-1	¼–¾	9
1T2, 2T2 (1935-36)	1/16–1/8	1	¼–1	9
1T6, 1W7, 1W8, 2W6, 2W7, 2W8 (1935-36)	1/16–1/8	1	¼–1	8
J5 (1937)	1/16–1/8	1–1½	1 –1½	9½
J15, J15M (1937); K10, K15, K15B (1938-40)	1/16–1/8	1	½–1	9
J20, J25, J30 (1937); K20, K25, K30 (1938-40)	1/16–1/8	1	½–1¼	8
J20M, J20MB, J25M, J25MB, J30M (1937)	1/16–1/8	1	½–1	8
K5 (1938); L5 (1939)	1/16–1/8	¼–¾	0 –1½	5½
K15M, K20M, K20MB, K25M, K25MB, K30M (1938)	1/16–1/8	1	0 –1½	8
Coupe Express (1941-42)	1/16–1/8	1	2	7½
All Other Models (1941-42)	1/16–1/8	1	1¼	8
WALTER				
FN, FM, FKM, FCK, FC, FB, FBR, FXB, FXR	N1/16	1½	5	2
WHITE				
15, 15B	All White Models (Balloon Tires) — 1/8–1/4	1½	1½	0
160, 161, 162, 60, 60K, 601, 602		1	3¾	8½
20, 20A, 20D		1½	3	0
210, 211, 212, 611, 612, 612K, 613		1	3½	8½
40, 40A, 40D, 45, 45A, 45D, 52, 52D, 52T, 55, 50B (Elliott Type Axle)		1½	0	0
51AS, 58S, 620K, 621K, 63, 63D, 64, 640, 50B, 51A (Reverse Elliott Type Axle)		1	3½	8½
51, 51A (Elliott Type Axle)		1½	2¾	0
53, 701, 702, 784, 786, 788		1	1½	8½
54, 59, 54A, 59A, 691, 712, 713		1	2¾	8½
56		1½	1½	0
618, 618K, 620, 621, 630K, 631, 631K, 640K, 641K, 642, 643, 58SS		1	3¼	8½
57		1½	2½	0
58, 685, 706M		1	2¼	8½
65, 65A		1	1¾	8½
684, 686		1	1	8½
730, 731		1	2½–3½	8½
718, 750, 750T		1	2	8½
703, 704, 705, 704K, 706, 708, 709, 710, 720, 722, 804, 805, 809, 810, 784, 786, 788, 798, 720T		1	3	8½
706M, 7788, 7788, 812, 818, 850		1	3½	8½
700, 800, 800M, 802, 804, 1010, 1012		1	1½	8
820, 822		1	3½	8
White Horse (1940)		1	3¼	9
WA14, WA16, WA18, WA20, WA34		1	2½	8
WA22, WA28, WA114, WA118, WA120, WA122, WA126, WA134, 782	1/8–1/4	1	2½	8½
White Horse (1941)		1	1	9
WILLYS				
C101, T101, C113, C131, C157, 77 (1929-37)	1/8	2	1 -2	7½
37, 38, 48, 440, 441, 448P, 441P, 442, 442P (1937-42)	3/32	2	3	7½

N—Negative P—Positive T—Toe-out °—± 1 degree

TIRE WEAR CHARACTERISTICS DUE TO MISALIGNMENT

INCORRECT TOE-IN

Tire wears from outside to inside of tread leaving feather edge on inside edges of ribs. It is usually more pronounced on the right wheel than on the left.

INCORRECT TOE-OUT

Tire wears from inside of tread to outside, leaving feather edge on outside edges of ribs. Most wear will appear on inside half of tread. It is usually more pronounced on the left wheel than on the right.

INCORRECT CAMBER

Wear on the outside half of tread with excessive camber, wears inside half of tread when camber is not enough. Does not leave a feather edge. This wear takes the form of deep depressions or waves or "heel and toe."

INCORRECT TRACKING

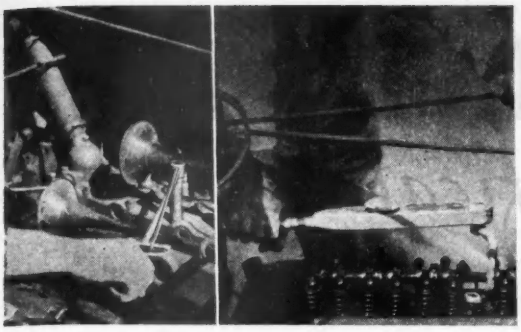
Wear will resemble toe-in or toe-out wear. A feather edge wear similar to toe-in or toe-out, but less pronounced.

UNBALANCED WHEELS

In the case of static unbalance, usually one large spot with one or two small spots on back side. In the case of dynamic unbalance, it is generally spotty wear not limited to one area as in case of static unbalance.

INCORRECT CASTER

Caster in itself does not cause tire wear but may cause an error in camber, toe-in or steering geometry, thus resulting in a wear characteristic of that misalignment.



TENSION *Specifications*

FOR USE WITH TENSION WRENCHES

Snapped studs and stripped threads should be a thing of the past in the progressive fleet shop — even where unskilled labor replaces veterans. Tension wrenches can eliminate those troubles and contribute to material conservation by preventing cracked housings, cylinder heads, etc., due to uneven tightening with ordinary box or end wrenches.

The tension wrench makes nut and stud tightening a precision job. The mechanic merely consults the tables below for the proper tension reading, tightens until the pointer on the wrench scale indicates the limit has been reached.

ABBREVIATIONS:

* Center and Rear. ** Front and Intermediate.
*** Connecting Rod $\frac{7}{16}$ in. † Babbitt.
§ Connecting Rod $\frac{5}{16}$ in.

Note 1—Rocker Arm Support 29 (1938) 27½ (1939)

Note 2—Spark Plug Tensions:
⅞-18, cast iron head—34-38
18mm, cast iron head—28-32
18mm, aluminum head—24-28
14mm, cast iron head—24-28
14mm, aluminum head—20-24

Note 3—Injector crab nut 11.
Note 4—All 18mm, plugs 33-42.
Note 5—Manifold 100-110.
Note 6—Manifold 70-75.
Note 7—Sparkplug.
Iron head—28-30.—Aluminum head—26-28.

Engine Make	Cylinder Head	Main Bearings	Connecting Rod Bearings
AUTOCAR			
A, UA, B, UB, C10, C10T, U10, 10T, C20, C20T, U20, U20T	50- 55	60- 70	55- 60
All Others	80- 85	130-140	85- 90
BUDA			
All Models	⅜"- 60- 70 ½"- 75- 85 ⅝"- 95-105 ¾"-125-135 ⅞"-150-160	1⅛"-195-200 1¼"-210-230 1⅜"-230-250 1⅞"-245-275 1 "-285-315 1⅛"-325-350	
CHEVROLET			
(1938) (Note 1)	67	106	
(1939) (Note 1)	78		
(1940-44)	75- 80	100-110	40- 45
CONTINENTAL			
A6244 (Note 4)	70- 75	100-110	35- 40
B6371, B6405, B6427 (Note 6)	70- 75	100-110	100-110
E600 E601, E602, E603, (Note 5)	100-110	100-110	100-110
F4124, F4140, F4162 (Note 4)	70- 75	100-110	35- 40
F6170, F6199, F6209, F6218, F6226 (Note 4)	⅜"-35-40 7/16"-70-75	100-110	35- 40
M6271, M6290, M6330, M6253 (Note 6)	70- 75	½"-100-110 9/16"-130-140	70- 75
20R, 21R, 22R (Note 5)	100-110	100-110	100-110
R6513, R6572, R6602	100-110	100-110	100-110
Y4069, Y4091, Y4112	40- 45	100-110	20- 25
CUMMINS			
A	190-210	150-170	40- 45
H-HS	430-450	310-330	105-115
DODGE			
(1938-44)	Nuts 53- 57½ Plain head cap screws 65- 70 Cupped head cap screws 67½-72½	75- 80	60- 65
Diesel	80- 85	75- 80	60- 65

Engine Make	Cylinder Head	Main Bearings	Connecting Rod Bearings
FORD (1938-44) (Note 2)	85 h.p. aluminum—40 60 h.p. aluminum—30 All iron—50		
GEN. MOTORS			
216, 223, 230	60- 70	75- 85	40- 50
239, 257, 286	60- 70	90-100	65- 75
331, 400, 450	65- 75	90-100	90-100
479, 529, 707	110-120	90-100	90-100
228, 236, 240, 256,270	60- 70	70- 80	40- 50
278, 308	65- 75	75- 85	65- 75
361, 426, 451, 477	65- 75	90-100	90-100
Diesel: 3-71, 4-71, 6-71 (No'e 3)	170 Cold 180 Hot	190-210	65- 70
HERCULES			
ZX Series	35	77	25
IX Series	35	77	42
OO Series	60	105	53
QX Series	60	*60 **70	39
JX Series	75	*60 **70	56
WX Series	75	*70 **105	105 ***53
YX, RX Series	75	*105 **123	105 §115
RXL Series	80	175	158 †123
HX Series	105	*193 **210	263
DOO Series	158	*77 **95	140
DJX Series	158	*77 **95	140
DWX Series	158	175	158
DRX Series	⅝"-175 1"-280	175	158
DHX Series	1⅛"-175 1⅛"-350	*193 **210	263
DFX Series	210	260	263
INTERN'L HARVESTER			
All Models	7/16"- 60 ½"- 67 ⅝"- 93	½"- 75 9/16"- 75 ⅝"- 93	7/16"-56-70
LYCOMING			
AFE, AEF	52½- 56		
ASE, BF	49- 52½		

Engine Make	Cylinder Head	Main Bearings	Connecting Rod Bearings
REO			
S140, S209	60- 61	87- 98	49-52½
S228, S3-268, S3L268, S5-309, GC228, GC245, GC288, GC310	83-100	67-75	70-75
STUDEBAKER			
J5, J10, J15, J15M, J15B, K5, K10, K15, K15M, K15B, L5 (Note 7)	83	92	54
Coupe Express, Standard (1941)	50	92	54
Heavy Duty (1941)	83	92	54
WAUKESHA			
6BL, 6BM, 6BK, 6BKH	73-75	88-92	67-69
6ML, 6MK, 6MKR, 6MZ, 6MZR	73-75	96-100	67-69
6SRLR, 6SRKR	73-75	160-164	121-125
130HS, 130HL, 130GS, 130GL	96-100	109-113	67-69
140HS, 140HK, 140GS, 140GK	130-134	130-134	121-125
CHK, HL	130-134	130-134	67-69
WK WOK	130-134	130-134	86-88
FEB	130-134	125-130	67-69
6GAK, 6GAL	130-134	125-130	73-75
6RBR	117-121	130-134	73-75
HBKH	130-134	130-134	73-75
145HS, 145HK, 145GS, 145GK	130-134	242-250	73-75
6WAK, 6WAKH	146-150	242-250	86-88
6EK, 6EKH 6LK, 6LRD, 6LRH	292-300	242-250	165-174
WHITE			
All Models	⅜"- 28- 32 7/16"- 48- 52 ½"- 70- 75 9/16"-105-115 ⅝"-140-150 ¾"-175-185		
WILLYS			
48, 440, 441 442 (Note 7)	Screws 65-75 Nuts 60-65	65-70	50-55

POLISHING SHELL TYPE REFLECTORS

Polishing reflectors does not consist of carelessly wiping with any old rag. A seemingly bright polish may be obtained in this manner, but very shortly thereafter an uncleanable discoloration will set in and the reflector is ruined.

The reflector should first be washed with warm soapy water to remove the loose dirt and lighter road film, then thoroughly rinsed with plain water. Polish should then be applied with a soft rag, preferably flannel. In polishing, an in-and-out movement from the center of the reflector to the outside edge should be used. After allowing the polish to dry, the reflector should be wiped with a piece of dry flannel. There are available on the market many manufactured polishes which do a very satisfactory job.

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING

GASOLINE ENGINE *Specifications*

ENGINE MAKE AND MODEL	Number of Cylinders, Bore and Stroke (In.)	MAX. BRAKE H.P. at R.P.M.		Piston Displacement (Cu. In.)	Compression Ratio	TORQUE	Engine Weight without Carburetor or Ignition (Lb.)
		With Bare Engine	With Standard Accessories			Maximum Torque at R.P.M. (Lb. Ft.)	
AUTOCAR							
377	6-4x5	119-2800	112-2800	377.0	5.75	280-1400 (BE)	1165
447	6-4 1/4x5 1/4	133-2500	122-2500	447.0	5.75	351-1100 (BE)	1320
501	6-4 1/2x5 1/4	145-2500	134-2500	501.0	5.75	395-950 (BE)	1330
BUDA							
HP-234	4-3 1/2x5 1/2	59-2400	50-2400	234.0	5.83	133-1200 (EA)	770
K-393	6-4 1/8x4 3/4	101-2400	86-2400	393.0	4.80	216-1100 (EA)	905
K-428	6-4 3/8x4 3/4	107-2400	91-2400	428.0	5.33	240-1100 (EA)	905
L-525	6-4 1/2x5 1/2	110-2400	94-2400	525.0	4.75	287-800 (EA)	950
LO-525	6-4 1/2x5 1/2	135-2400	115-2400	525.0	5.00	330-1100 (EA)	1195
CHEVROLET							
1942	6-3 1/2x3 3/4	90-3300	83-3200	216.5	6.50	168-1100 (EA)	.....
1942	6-3 1/16x3 1/16	93-3100	83.5-3000	235.5	6.62	182-1000 (EA)	.....
CONTINENTAL							
Y-4069	4-2 1/2x3 1/2	28-3500	.....	68.7	6.15	52-2000 (BE)	298
Y-4091	4-2 5/8x3 1/2	37-3500	.....	90.9	6.00	70-1800 (BE)	305
Y-4112	4-3 1/8x3 1/2	46-3400	.....	111.7	6.00	87-1800 (BE)	315
F-6209	6-3 1/16x4 5/8	71-3200	.....	209.5	5.75	155.1200 (BE)	506
F-6226	6-3 1/8x4 5/8	76-3000	.....	226.0	6.00	170-1200 (BE)	512
A-6244	6-3 1/16x4 5/8	85-3000	.....	243.6	6.02	182-1200 (BE)	548
M-6271	6-3 5/16x4 5/8	92-3000	.....	270.9	5.75	207-1200 (BE)	750
M-6290	6-3 3/4x4 5/8	99-3000	.....	289.9	5.70	225-1200 (BE)	760
M-6330	6-4x4 5/8	107-2800	.....	329.8	5.50	258-1000 (BE)	770
B-6371	6-4 1/16x4 5/8	109-2600	.....	370.9	5.74	280-1000 (BE)	855
B-6405	6-4 1/8x4 5/8	115-2600	.....	405.3	5.74	314-1000 (BE)	870
21R	6-4 3/8x4 3/4	133-2400	.....	428.4	4.63	323-1000 (BE)	1318
22R	6-4 1/2x5 1/4	141-2400	.....	501.0	4.50	375-1000 (BE)	1430
R6572	6-4 3/4x5 5/8	175-2750	.....	571.7	6.25	436-1250 (BE)	1250
R6602	6-4 7/8x5 5/8	184-2600	.....	601.9	6.00	460-1200 (BE)	1250
B6427	6-4 5/8x4 7/8	121-2500	.....	427.2	6.60	332-990 (BE)	885
R6513	6-4 1/2x5 5/8	165-2600	.....	512.9	5.90	400-1200 (BE)	1250
DODGE							
T-112, T-114	6-3 1/4x4 5/8	95-3600	80-3400	217.7	6.80	172-1200 (BE)	500
T-116	6-3 1/4x4 5/8	105-3600	85-3400	230.2	6.70	184-1300 (BE)	535
T-118, T-128	6-3 7/16x4 1/4	104-3000	90-3000	236.6	6.80	190-1600 (BE)	597
T-120, T-130	6-3 7/16x4 1/2	109-3000	95-3000	250.6	6.80	200-1500 (BE)	612
T-124	6-3 3/4x5	106-2800	97-2800	331.3	5.85	240-800 (BE)	1050
FORD							
30HP, 40	4-3 3/32x3 3/4	.....	40-3200†	119.5	6.00	84-1600 (BE)	352
90HP	6-3.3x4.4	.....	90-3400†	225.8	6.70	180-1400 (BE)	532
85HP, 90	8-3 7/16x3 3/4	.....	90-3800†	221.0	5.90	156-2000 (BE)	547
95HP, 100	8-3 7/16x3 3/4	.....	100-3800†	239.0	6.40	176-2000 (BE)	554
G. M. C.							
228	6-3 3/8x3 11/16	95-3200	85-3000	228.0	6.75	178-1000 (EA)	.....
248	6-3 7/16x3 11/16	100-3100	89-3000	248.5	6.75	195-1000 (EA)	.....
270	6-3 7/16x4	104-3000	95-3000	270.0	6.75	216-1000 (EA)	.....
278	6-3 5/8x4 1/2	100-2800	86-2800	278.6	6.00	213-1000 (EA)	.....
308	6-3 7/8x4 1/2	111-2800	87-2800	308.2	6.00	239-800 (EA)	.....
361	6-4 1/4x4 1/2	122-2800	106-2500	360.8	6.00	265-800 (EA)	.....
426	6-4 1/2x5	145-2800	127-2400	425.6	6.00	322-1000 (EA)	.....
451	6-4 5/8x5	149-2600	130-2400	450.9	6.00	350-1000 (EA)	.....
477	6-4 1/2x5	153-2600	135-2400	477.1	6.00	365-1000 (EA)	.....
HERCULES							
QXA-3, QXA-5	6-3 1/16x4 1/8	59-3000	50-3000	190.0	5.50	130-1000 (BE)	480
QXB-3, QXB-5	6-3 1/4x4 1/8	67-3500	57-3500	205.0	5.85	150-1000 (BE)	480
QXC-3, QXC-5	6-3 3/8x4 1/8	73-3500	62-3500	221.0	5.85	159-1000 (BE)	483
QXD-3, QXD-5	6-3 7/16x4 1/8	73-3000	62-3000	230.0	6.50	171-1100 (BE)	485
JXA	6-3 3/8x4 1/4	63-2800	53-2800	228.0	5.16	141-1000 (BE)	550
JXF	6-3 13/16x4 1/4	71-3000	60-3000	232.3	6.16	151-1200 (BE)	555
JXE-3, JXG	6-3 1/2x4 1/4	77-3000	65-3000	246.0	6.11	169-1000 (BE)	555
JXB	6-3 5/8x4 1/4	84-3000	71-3000	263.0	5.40	195-1000 (BE)	560
JXC	6-3 3/4x4 1/4	87-3000	74-3000	282.0	5.90	215-1000 (BE)	565
JXD	6-4x4 1/4	110-3000	93-3000	320.0	6.50	243-1200 (BE)	570
WXC	6-4x4 1/2	103-2800	87-2800	339.0	5.96	255-1100 (BE)	805
WXC-2	6-4 1/8x4 1/2	110-2800	93-2800	360.8	5.96	271-1100 (BE)	810
WXC-3	6-4 1/4x4 1/2	117-2800	99-2800	383.0	5.96	288-1100 (BE)	820
WXLC	6-4x4 3/4	111-2800	94-2800	358.0	6.29	268-1100 (BE)	811
HERCULES—Cont.							
WXLC-3	6-4 1/4x4 3/4	126-2800	107-2800	404.0	6.29	302-1000 (BE)	825
YXC	6-4 3/8x4 3/4	116-2400	98-2400	428.4	6.29	335-1150 (BE)	975
YXC-2	6-4 1/2x4 3/4	123-2400	104-2400	453.0	6.29	357-1100 (BE)	975
YXC-3	6-4 5/8x4 3/4	129-2400	109-2400	478.8	6.29	374-1100 (BE)	975
RXB	6-4 1/2x5 1/4	121-2400	103-2400	500.9	5.41	362-1100 (BE)	1000
RXC	6-4 5/8x5 1/4	131-2400	111-2400	529.2	5.41	395-1000 (BE)	1010
RXLC	6-4 5/8x5 1/4	144-2400	122-2400	529.2	6.20	413-1000 (BE)	1195
RXLD	6-4 3/4x5 1/4	152-2400	129-2400	558.0	6.20	438-1000 (BE)	1195
HXB	6-5x6	160-2100	136-2100	707.0	5.75	502-900 (BE)	1810
HXC	6-5 1/4x6	177-2100	150-2100	779.0	5.69	550-1000 (BE)	1810
HXD	6-5 1/2x6	184-1800	156-1800	855.0	5.73	630-900 (BE)	1830
HXE	6-5 3/4x6	200-1800	170-1800	935.0	5.50	695-900 (BE)	1830
INTERNATIONAL							
GRD-175	6-3x4 1/8	64-3400	58-3400	174.93	6.70	120-8-1000 (BE)	535
GRD-214	6-3 1/8x4 1/8	82-3400	73-3200	213.24	6.30	160-1200 (BE)	536
GRD-233	6-3 1/8x4 1/2	93-3400	80-3400	232.65	6.30	176-800 (EA)	624*
FAC-241	6-3 3/8x4 1/2	95-3200	84-3200	241.54	6.20	192-1200 (BE)	773
FAC-259	6-3 1/2x4 1/2	101-3200	88-2800	259.76	6.20	211-1600 (BE)	768
FBC-318	6-3 7/8x4 1/2	100-2800	85-2600	318.41	5.40	241-800 (BE)	953
FBC-361	6-4 1/8x4 1/2	111-2700	94-2600	360.82	5.20	268-1500 (BE)	933
FBC-401	6-4 1/8x5	114-2600	99-2400	400.92	5.20	308-800 (BE)	984
FBC-450	6-4 1/2x5	120-2400	104-2300	450.99	5.20	331-800 (BE)	973
FEB-648	6-5x5 1/2	140-2100	115-1750	648.00	4.40	460-1000 (BE)	1825
BLD-269	6-3 1/8x4 1/2	100-3000	89-2800	269.1	6.30	216-1000 (EA)	874*
RED-450	6-4 5/8x5	148-2600	130-2600	451.0	6.30	354-1000 (EA)	1076*
MACK							
EN-11	6-6 1/8x4 3/8	67-3000	58-3000	210.0	6.00	145-1100	501
EN-12	6-3 7/16x4 5/8	72-3000	60-3000	226.0	5.94	166-1000	510
EN-253	6-3 1/2x4 3/8	83-3000	69-2750	253.0	5.73	180-1000	749
EN-271	6-3 5/8x4 3/8	90-3000	73-2750	271.0	6.00	193-1200	738
EN-290	6-3 3/4x4 3/8	97-3000	80-2750	290.0	6.10	214-1100	759
EN-310	6-3 5/8x5	97-2700	83-2700	310.0	5.60	214-1200	900
EN-330	6-4x4 3/8	100-2800	86-2800	330.0	6.00	244-1000	771
EN-354	6-3 7/8x5	112-2700	98-2700	354.0	5.50	254-1000	910
EN-431	6-4 1/16x5 5/8	124-2500	108-2500	431.0	5.72	325-1200	1400
EN-471	6-4 1/8x5 5/8	133-2400	118-2400	471.0	5.63	352-1200	1415
EN-510	6-4 7/16x5 1/2	144-2400	129-2400	510.0	5.63	382-1200	1430
EN-611	6-4 5/8x5 3/4	161-2100	147-2100	611.0	5.40	465-900	1757
EN-707	6-5x6	176-2000	162-2000	707.0	5.35	530-800	1825
REO							
GC-228	6-3 3/8x4 1/4	83-3200	.....	228.0	6.20	177-1000 (BE)	758*
GC-245	6-3 1/2x4 1/4	89-3100	.....	245.0	6.20	191-1000 (BE)	763*
GC-288	6-3 1/2x5	94-3000	.....	288.0	6.20	221-1200 (BE)	780*
GC-310	6-3 5/8x5	101-3000	.....	310.0	6.20	241-900 (BE)	785*
WAUKESHA							
6BL	6-3 1/2x4 1/4	72-2800	51-2000	245.0	5.70	165-1300 (BE)	675
6BM	6-3 5/8x4 1/4	77-2800	54-2000	263.0	5.70	178-1100 (BE)	685
6BK	6-3 3/4x4 1/4	82-2800	59-2000	282.0	5.70	189-1100 (BE)	690
6BZ	6-4x4 1/4	86-2800	65-2000	320.0	5.75	210-1000 (BE)	706
6MKR	6-4 1/4x4 3/4	98-2500	58-1600	381.0	5.34	270-800 (BE)	890
6MZR	6-4 1/4x4 3/4	106-2500	66-1600	404.0	5.38	286-900 (BE)	920
140-GS	6-4 1/4x5 1/2	122-2250	114-2250	468.0	5.80	362-1000 (BE)	1350
6SRLR	6-4 5/8x5 1/8	112-2250	105-2250	462.0	5.50	330-800 (BE)	1185
140-GK	6-4 1/2x5 1/2	136-2250	128-2250	525.0	5.80	403-1000 (BE)	1390
6SRKR	6-4 5/8x5 1/8	125-2250	120-2250	517.0	5.50	369-600 (BE)	1225
145-GS	6-4 3/8x6	152-2000	143-2000	638.0	5.60	481-1000 (BE)	1900
6RBR	6-5x5 3/4	150-2000	144-2000	677.0	5.35	492-800 (BE)	1575
145-GK	6-5 1/4x6	186-2000	177-2000	779.0	5.60	590-1200 (BE)	1930
6GAK	6-5 1/2x5 1/2	155-2200	143-2000	784.0	4.80	545-900 (BE)	2250
WHITE							
(H) 35A	4-3 5/8x3 1/2	40-2600	33-2800	145.0	5.70	88-1200 (EA)	475
100A	6-3 7/16x4 1/2	90-2800	.....	250.0	6.75	185-1200 (BE)	973
110A	6-3 7/16x4 1/2	100-2600	.....	270.0	6.50	200-1300 (BE)	973
120A	6-3 7/8x4 1/2	110-2600	.....	318.0	6.40	285-1200 (BE)	993
140A	6-3 7/8x5 1/8	125-2600	.....	362.0	6.28	285-1100 (BE)	1051
WILLYS							
442	4-3 1/8x4 3/8	63-3900	.....	134.2	6.48	108-1800 (BE)	364

ABBREVIATIONS
*—Weight with ignition and carburetor

†—Rated with generator and water pump, but no fan or muffler

BE—Bare Engine
(EA)—Engine with Standard Accessories

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK KEEP 'EM ROLLING ★

VALVE SIZE DATA

Fleet maintenance men who are increasing the amount of engine rebuilding and parts salvage in their shops will find much useful data in these tables. After welding a new face on a valve, for example, the finishing data on the correct diameter of the valve head, stem and the face angle will be found on this page.

ENGINE MAKE AND MODEL	Number of Cylinders, Bore and Stroke (In.)	Arrangement	VALVES							
			Max. Head Diam. (In.)		Min. Port Diam. (In.)		Stem Diam. (In.)		Seats	
			Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Angle (Deg.)	Inserts Used?
AUTOCAR										
377	6-4x5	L	1.90	1.78	1.68	1.56	.437	.437	45	E
447	6-4 1/4x5 1/4	L	2.06	1.93	1.87	1.75	.437	.437	45	E
501	6-4 1/2x5 1/4	L	2.06	1.93	1.87	1.75	.437	.437	45	E
BUDA										
HP-234	4-3 11/16x5 1/8	L	1.65	1.53	1.50	1.37	.372	.372	45	N
K-393	6-4 1/16x4 3/4	L	1.90	1.78	1.75	1.62	.372	.372	45	N
K-428	6-4 3/8x4 3/4	L	1.90	1.78	1.75	1.62	.372	.372	45	N
L-525	6-4 1/2x5 1/2	L	1.90	1.78	1.75	1.62	.372	.372	45	E
LO-525	6-4 1/2x5 1/2	I	1.96	1.68	1.75	1.50	.372	.372	30	E
CHEVROLET										
1942	6-3 1/2x3 3/4	I	1.64	1.46	1.25	1.20	.341	.340	30	N
1942	6-3 1/16x3 1/16	I	1.64	1.46	1.25	1.20	.341	.340	30	N
CONTINENTAL										
Y-4069	4-2 1/2x3 1/2	L	1.20	1.01	1.06	.875	.314	.313	(h)	N
Y-4091	4-2 7/8x3 1/2	L	1.20	1.01	1.06	.875	.314	.313	(h)	N
Y-4112	4-3 1/16x3 1/2	L	1.20	1.01	1.06	.875	.314	.313	(h)	N
F-6209	6-3 1/16x4 3/8	L	1.51	1.32	1.37	1.18	.341	.339	(h)	E
F-6226	6-3 1/16x4 3/8	L	1.51	1.32	1.37	1.18	.341	.339	(h)	E
A-6244	6-3 1/16x4 3/8	L	1.57	1.32	1.43	1.18	.373	.372	(k)	E
M-6271	6-3 5/16x4 3/8	L	1.76	1.51	1.62	1.37	.404	.402	(h)	E
M-6290	6-3 3/4x4 3/8	L	1.76	1.51	1.62	1.37	.404	.402	(h)	E
M-6330	6-4x4 3/8	L	1.76	1.51	1.62	1.37	.404	.402	(h)	E
B-6371	6-4 1/4x4 5/8	L	1.89	1.64	1.75	1.50	.435	.432	(k)	E
B-6405	6-4 A/16x4 5/8	L	1.89	1.64	1.75	1.50	.435	.432	(k)	E
21R	6-4 5/8x4 3/4	I	2.06	1.87	1.81	1.62	.435	.433	30	E
22R	6-4 1/2x5 1/4	I	2.06	1.87	1.81	1.62	.435	.433	30	E
R6572	6-4 3/4x5 3/8	I	2.14	1.89	2.00	1.75	.500	4.95	(h)	E
R6602	6-4 7/8x5 3/8	I	2.14	1.89	2.00	1.75	.500	4.95	(h)	E
B6427	6-4 5/8x4 7/8	L	1.89	1.64	1.75	1.50	.435	4.32	(h)	E
R6513	6-4 1/2x5 3/8	I	2.14	1.89	2.00	1.75	.500	4.95	(h)	E
DODGE										
T-112, T-114	6-3 1/4x4 3/8	L	1.53	1.40	1.40	1.28	.340	.340	45	E
T-116	6-3 1/4x4 5/8	L	1.53	1.40	1.40	1.28	.340	.340	45	E
T-118, T-128	6-3 7/16x4 1/4	L	1.71	1.53	1.56	1.37	.340	.340	45	E
T-120, T-130	6-3 7/16x4 1/2	L	1.71	1.53	1.56	1.37	.340	.340	45	E
T-124	6-3 3/4x5	L	1.93	1.75	1.78	1.59	.371	.371	45	E
FORD										
30HP, 40	4-3 3/16x3 3/4	L	1.51	1.28	.....	.....	.311	.310	45	Bo
90HP	6-3.3x4.4	L	1.65	1.51	.....	.....	.311	.310	45	Bo
85HP, 90	8-3 7/16x3 3/4	L	1.51	1.51	.....	.....	.311	.310	45	Bo
95HP, 100	8-3 7/16x3 3/4	L	1.51	1.51	.....	.....	.311	.310	45	Bo
G. M. C.										
228	6-3 5/16x3 11/16	I	1.64	1.47	1.25	1.16	.343	.343	30	E
248	6-3 11/16x3 11/16	I	1.64	1.47	1.25	1.16	.343	.343	30	E
270	6-3 3/4x4	I	1.64	1.47	1.25	1.16	.343	.343	30	E
278	6-3 5/16x4 1/2	I	1.81	1.58	1.44	1.37	.375	.375	45	E
308	6-3 1/16x4 1/2	I	1.81	1.46	1.44	1.37	.375	.375	45	E
361	6-4 1/16x4 1/2	I	1.94	1.72	1.50	1.50	.375	.375	(h)	E
426	6-4 1/4x5	I	1.94	1.72	1.50	1.50	.375	.375	(h)	E
451	6-4 3/8x5	I	1.94	1.72	1.50	1.50	.375	.375	(h)	E
477	6-4 1/2x5	I	1.94	1.72	1.50	1.50	.375	.375	(h)	E
HERCULES										
QXA-3, QXA-5	6-3 1/16x4 1/8	L	1.50	1.37	1.31	1.12	.310	.310	30	N
QXB-3, QXB-5	6-3 1/16x4 1/8	L	1.50	1.37	1.31	1.12	.310	.310	30	N
QXC-3, QXC-5	6-3 3/16x4 1/8	L	1.62	1.37	1.43	1.12	.310	.310	30	N
QXD-3, QXD-5	6-3 7/16x4 1/8	L	1.62	1.37	1.43	1.12	.310	.310	30	N
JXA	6-3 3/8x4 1/4	L	1.75	1.62	1.50	1.37	.373	.373	45	N
JXF	6-3 11/16x4 1/4	L	1.75	1.62	1.50	1.37	.373	.373	45	N
JXE-3, JXG	6-3 1/2x4 1/4	L	1.75	1.62	1.50	1.37	.373	.373	45	N
JXB	6-3 5/8x4 1/4	L	1.75	1.62	1.50	1.37	.373	.373	45	N
JXC	6-3 3/4x4 1/4	L	1.75	1.62	1.50	1.37	.373	.373	45	N
JXD	6-4x4 1/4	L	1.75	1.62	1.50	1.37	.373	.373	45	N
WXC	6-4x4 1/2	L	1.75	1.75	1.62	1.50	.373	.373	45	N
WXC-2	6-4 1/16x4 1/2	L	1.75	1.75	1.62	1.50	.373	.373	45	N
WXC-3	6-4 1/4x4 1/2	L	1.75	1.75	1.62	1.50	.373	.373	45	N
WXLC	6-4x4 3/4	L	1.75	1.75	1.62	1.50	.373	.373	45	N

ENGINE MAKE AND MODEL	Number of Cylinders, Bore and Stroke (In.)	Arrangemen	VALVES							
			Max. Head Diam. (In.)		Min. Port Diam. (In.)		Stem Diam. (In.)		Seats	
			Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Angle (Deg.)	Inserts Used?
HERCULES—Cont.										
WXLC-3	6-4 1/4x4 3/4	L	1.75	1.75	1.62	1.50	.373	.373	45	N
YXC	6-4 3/8x4 3/4	L	2.00	2.00	1.75	1.75	.373	.373	45	N
YXC-2	6-4 1/2x4 3/4	L	2.00	2.00	1.75	1.75	.373	.373	45	N
YXC-3	6-4 5/8x4 3/4	L	2.00	2.00	1.75	1.75	.373	.373	45	N
RXB	6-4 1/2x5 1/4	L	2.00	2.00	1.75	1.75	.373	.373	45	N
RXC	6-4 5/8x5 1/4	L	2.00	2.00	1.75	1.75	.373	.373	45	N
RXLC	6-4 5/8x5 1/4	L	2.00	2.00	1.75	1.75	.373	.373	45	N
RXLD	6-4 3/4x5 1/4	L	2.00	2.00	1.81	1.75	.373	.373	(h)	N
HXB	6-5x6	L	2.43	2.31	2.12	2.00	.498	.498	30	E
HXC	6-5 1/4x6	L	2.43	2.31	2.12	2.00	.498	.498	30	E
HXD	6-5 1/2x6	L	2.43	2.31	2.12	2.00	.498	.498	30	E
HXE	6-5 3/4x6	L	2.43	2.31	2.12	2.00	.498	.498	30	E
INTERNATIONAL										
GRD-175	6-3x4 1/8	L	1.68	1.46	1.50	1.34	.372	.371	45	E
GRD-214	6-3 1/16x4 1/8	L	1.68	1.46	1.50	1.34	.372	.371	45	E
GRD-233	6-3 1/16x4 1/2	L	1.68	1.46	1.50	1.34	.372	.371	45	E
FAC-241	6-3 5/8x4 1/2	I	1.68	1.46	1.50	1.31	.342	.342	45	E
FAC-259	6-3 1/2x4 1/2	I	1.68	1.46	1.50	1.31	.342	.342	45	E
FBC-318	6-3 7/8x4 1/2	I	2 1/4	1 5/8	2.00	1.37	.372	.372	15	E
FBC-361	6-4 1/8x4 1/2	I	2 1/4	1 5/8	2.00	1.37	.372	.372	15	E
FBC-401	6-4 1/8x5	I	2 1/4	1 5/8	2.00	1.37	.372	.372	15	E
FBC-450	6-4 3/8x5	I	2 1/4	1 5/8	2.00	1.37	.372	.372	15	E
FEB-648	6-5x5 1/2	I	2 3/8	2 3/8	1.12	1.12	.43	.43	45	E
BLD-269	6-3 3/16x4 1/2	I	1.65	1.46	1.50	1.31	.342	.342	45	E
RED-450	6-4 3/8x5	I	2.25	1.54	2.00	1.43	.434	.434	15	E
MACK										
EN-11	6-6 3/16x4 3/8	L	.....	.....	1.37	1.19	.344	.344	(h)	E
EN-12	6-3 11/16x4 3/8	L	.....	.....	1.37	1.19	.344	.344	(h)	E
EN-253	6-3 1/2x4 3/8	L	.....	.....	1.62	1.44	.406	.406	(k)	E
EN-271	6-3 5/8x4 3/8	L	.....	.....	1.62	1.44	.406	.406	(k)	E
EN-290	6-3 3/4x4 3/8	L	.....	.....	1.62	1.44	.406	.406	(k)	E
EN-310	6-3 5/8x5	L	1.89	1.76	1.62	1.44	.373	.371	30	E
EN-330	6-4x4 3/8	L	.....	.....	1.62	1.44	.406	.406	(h)	E
EN-354	6-3 7/8x5	L	1.89	1.76	1.62	1.44	.373	.371	30	E
EN-431	6-4 1/8x5 3/8	I	1.95	1.72	1.81	1.56	.435	.433	30	E
EN-471	6-4 7/16x5 3/8	I	1.95	1.72	1.81	1.56	.435	.433	30	E
EN-510	6-4 7/16x5 1/2	I	1.95	1.72	1.81	1.56	.435	.433	30	E
EN-611	6-4 3/4x5 3/4	I	2.27	1.99	2.05	1.77	.498	.496	30	E
EN-707	6-5x6	I	2.27	1.99	2.05	1.77	.498	.495	30	E
REO										
GC-228	6-3 5/16x4 1/4	L	1.78	1.62	.....	.....	.373	.373	45	E
GC-245	6-3 1/2x4 1/4	L	1.78	1.62	.....	.....	.373	.373	45	E
GC-288	6-3 1/2x5	L	1.78	1.62	.....	.....	.373	.373	45	E
GC-310	6-3 5/8x5	L	1.78	1.62	.....	.....	.373	.373	45	E
WAUKESHA										
6BL	6-3 1/16x4 1/4	L	1.68	1.43	1.50	1.25	.375	.375	45	E
6BM	6-3 5/16x4 1/4	L	1.68	1.43	1.50	1.25	.375	.375	45	E
6BK	6-3 3/8x4 1/4	L	1.68	1.43	1.50	1.25	.375	.375	45	E
6BZ	6-4x4 1/4	L	1.68	1.43	1.50	1.25	.375	.375	45	E
6MKR	6-4 1/16x4 3/4	L	1.93	1.43	1.75	1.25	.375	.375	45	E
6MZR	6-4 1/4x4 3/4	L	1.93	1.43	1.75	1.25	.375	.375	45	E
140-GS	6-4 1/4x5 1/4	I	2.12	1.56	1.87	1.37	.434	.434	(h)	E
6SRLR	6-4 3/16x5 1/8	L	2.16	1.65	1.87	1.37	.375	.375	30	E
140-GK	6-4 1/2x5 1/2	I	2.12	1.56	1.87	1.37	.434	.434	(h)	E
6SRKR	6-4 5/16x5 1/8	L	2.16	1.65	1.87	1.37	.375	.375	30	E
145-GS	6-4 1/4x6	I	2.37	1.84	2.12	1.62	.500	.500	(h)	E
6RBR	6-5x5 1/4	L	2.40	2.40	2.12	2.12	.437	.437	45	E
145-GK	6-5 1/4x6	I	2.37	1.84	2.12	1.62	.500	.500	(h)	E
6GAK	6-5 1/2x5 1/2	I	2.21	1.75	2.00	1.50	.437	.437	45	E
WHITE										
(H) 35A	4-3 5/16x3 1/2	OH	1.57	1.22	1.40	1.06	.372	.372	30	E
100A	6-3 1/16x4 1/2	L	1.65	1.62	1.43	1.50	.375	.375	45	E
110A	6-3 7/16x4 1/2	L	1.65	1.62	1.43	1.50	.375	.375	45	E
120A	6-3 7/16x4 1/2	L	1.65	1.62	1.43	1.50	.375	.437	45	E
140A	6-3 7/16x5 1/8	L	1.65	1.62	1.75	1.50	.375	.437	45	E
WILLYS										
442	4-3 1/16x4 3/8	L	1.53	1.46	1.34	1.28	.373	.373	45	N

ABBREVIATIONS

Bo—On Intake and Exhaust seats
E—On Exhaust valve seats
I—In Head (Valves)
L—Valves at Side (L-Head)
N—No or none
OH—Overhead
(h)—Intake 30°, Exhaust 45°
(k)—Intake 30°, Exhaust 44°

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING
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VALVE SPRING PRESSURES



MANUFACTURERS' RECOMMENDATIONS BY TRUCK AND ENGINE MAKES

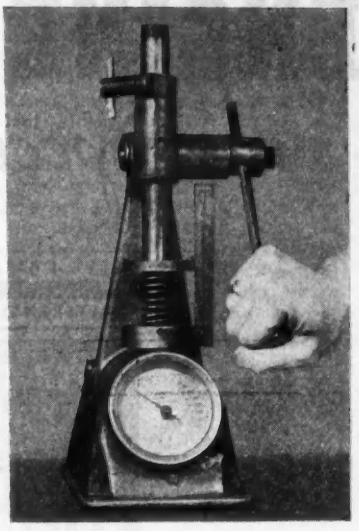
ABBREVIATIONS: I.—Inner O.—Outer Int.—Intake Exh.—Exhaust
*—Up to 1600 R.P.M. **—Above 1600 R.P.M. †—Free Length

Trucks	Year	VALVE SPRINGS — Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
AUTOCAR					
All models having the 315, 331, 358, 377, 404, 408, 447, 453 and 501 cu. in. engine		110	2 1/4	76	2 1/8
C-10, C-20, U-10, U-20		78	1.594	43	1.920
DC-10, DC-20 O.		55	1.406	31	1.781
DC-10, DC-20 I.		37	1.281	19	1.656
C-9044 O.		84	3 5/8	47	3 7/32
C-9044 I.		45	2 11/16	27	3 1/4
DC-100-T, DC-100-D, DC-10044, DC-10062, DC-10064		136	2 3/16	87	2 11/16
BROCKWAY					
78	1939-1942	98-104	1 3/8	42.5-47.5	1 11/32
83, 88, 92, 94 1st	1939-1942	105-111	1 13/32	43.6-47.6	2 1/16
83, 88, 92, 94 2nd		111-118	1.521	53-59	1 7/8
112, 128, 146, 147	1940-1942	102-110	1.521	45-51	1 7/8
152, 153, 154, 162, 156, 166 O.	1940-1942	111-118	1.521	53-59	1 7/8
152, 153, 154, 162, 156, 166 I.		28-32	1 11/64	11.3-14.3	1 17/32
170X, 195X, 175X, 220X, 240X, 260X O.	1939-1942	105-115	1 7/8	54.7-58.7	2 1/4
170X, 195X, 175X, 220X, 240X, 260X I.		47-53	1 49/64	20.4-24.4	2 7/32
96, 130, 125X, 145, 150X4, 150X5, 160X, 165X O.	Up to 1940 Inclusive	90-98	1 13/32	43.5-49.5	2 1/4
96, 130, 125X, 145, 150X4, 150X5, 160X, 165X I.		31-35	1 3/4	16.6-19.6	2 5/32
CHEVROLET					
All models	1939-1940	127	1 1/2	52	1 13/32
All models	1941-1941	128	1 1/2	55	1 7/16
CORBITT					
See specifications under applicable engine.					
DIAMOND T					
404, 404SC, 404C, 406, 509, 509SC, 509C, 612, 612SC, 612C, 614, 614SC, 614C		58	1.594	43	1.920
702, 702C, 805, 805C, 806, 806C, 900		102	2 1/32	50	2 13/64
DODGE					
TC, TD, VC, VD	1939-1940	80	1 7/32	36	1 3/4
TE, TF, TG, TH	1939	105	1 13/32	42 1/2	1 3/4
TL, TK, RO, RP, VL, VK, WL, WK	1939-1942	94	2 1/4	57 1/2	3 1/16
VF, VM, VG, VH, VR, VS, WC, WD, WF, WFM, WG, WH, WGM, WHM	1940-1942	111	1 3/4	42 1/2	1 3/4
FEDERAL					
8	1940-1942	37	1 9/32	19	1 21/32
15, 18, 20, 25, 29	1939-1942	52	1 7/16	31	1 11/16
40, 50, 35, 45, 55	1939-1942	60 1/2	2 1/16	47	2 1/16
C7, C8, 63	1939-1942	94	2 1/16	59	2 13/64
62 O.	1939-1942	50	1 27/32	22 1/2	2 1/32
62 I.		110	1 7/8	56 3/4	2 1/4
18M, 28M	1944	52	1 9/16	31	1 13/16
45M, 55M O.	1944	114	1.52	56	1 7/8
45M, 55M I.		30	1 11/64	12.8	1 13/32
60M O.	1944	110	1 7/8	56 3/4	2 1/4
60M I.		50	1 13/32	22 1/2	2 1/32
FORD					
60	1939-1940	48-52	1.788	26-30	2.05
85, 95, 100, 30	1939-1944	76-80	1.827	37-40	2.13

	Year	VALVE SPRINGS — Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
F. W. D.					
HS, T26, HA, T30		101-119	1 3/4	56-66	2 1/8
HG, HR, HM, HH6, CUA, CU, T32		93-109	1 13/32	59-69	2 11/32
SUA, SU, YU, MJ5, MJ6, T40, MJ 6X6		89-99	2 11/32	54-64	2 1/2
M7, T45, T60, T65, M8, M6X6		105-115	3 11/32	65-75	3 13/32
M10 O.		85	3 3/32	43-52	3 5/8
M10 I.		47	2 1/16	24-31	3 1/32
GENERAL MOTORS TRUCK					
AC & CC-100, 150, 250, 300, 350, 400, 450; ACS, CCS & CF-300, 350, 400 & 450; ACT, CCT, ACW, CCW, AFT, CFT, AFW & CFW-350 & 400; AF-310, 360, 410 & 460; ACK, CCK, ACKW & CCKW-350; ACV & CCV-100; AF & APF-240	1939-1942	132	1.493	58.6	1.821
AC, ACR, AF & AFR-520; AC & AF-500, 550, 600 & 650; ACT & AFT-500 & 600; ACW & AFW-600	1939-1942	118	1 1/32	61	1 13/64
AC, ACR, AF & AFR-620; AC, AF & AY-700, 800 & 850; ACT, ACW, AFT & AFW-700; AC, ACR, AF & AFR-720 & 750; ACX-870 & 890; AC-770	1939-1942	132	1 27/64	61	1 13/64
GRAMM					
11A, 21A, 31A, 41A O.		41	1 3/32	17	1 11/32
11A, 21A, 31A, 41A I.		37	1.281	19	1.656
46A, 56A, 71A, 76A, 86A		58	1.594	43	1.920
96A		102	2 1/32	50	2 13/64
D46A, D56A, D71A O.		55	1.406	31	1.781
D46A, D56A, D71A I.		37	1.281	19	1.656
GF O.		84	3 5/8	47	3 7/32
GF I.		45	2 1/16	27	3 1/4
HUG					
19W, 23W, 85W, 83W	1939-1942	110-119	1 3/4	61-66	2 1/8
87W, 42W, 87W6	1939-1942	101-109	1 13/32	64-69	2 11/32
92U, 43W, 44-4, 45-4	1939-1942	94-99	2 1/32	59-64	2 1/2
98, 99, 99S	1939-1942	110-115	3 11/32	70-75	3 13/32
51-6	1942	45	2 1/16	24-31 1/2	3 1/4
51-6 O.		84	3 3/32	43-52	3 5/8
INTERNATIONAL HARVESTER					
D2, D15, D30, D300, K1, K2, K3, K4, K5	1937-1942	85	1 11/32	47	2 1/4
D35, D40, D400, K6, K7	1937-1942	93	1 13/32	56	2
D50, D500, D60, D70, K8, K10, K11 O.	1937-1942	90	1 13/32	40	2 1/32
D50, D500, D60, D70, K8, K10, K11 I.		45	1 13/32	20	1 13/32
A7, A8, AR626F O.	1937-1942	140	2 1/16	61	2 1/2
A7, A8, AR626F I.		79	1 49/64	36	2 3/32
KR-11, KS-11 O.	1944	136	1 51/64	56	2 3/32
KR-11, KS-11 I.		86	1 33/64	35	1 31/64
KENWORTH					
505, 506, 507, 508, 509, 514, 515, 516, 510, 511, 512, 519, 520, 521, 522, 523, 524, 548, 549, 550, 552		136	2 1/16	87	2 1/16
528		Free length—2 5/16		(125-138 @ 1 13/32)	
543, 544, 545, 546		113	2	69	2 1/32
513, 536, 537, 538, 551		58	1.594	43	1.920
553, 554, 555, 556		64	2 1/16	50	2 5/8

Because valve springs are made of high alloy steels so vital for armament manufacture, their conservation not only is wise but necessary. On the other hand, the re-use of a valve spring that does not comes up to factory specifications may result in burned or sticky valves, poor power, wasted fuel, etc. After every valve job the springs should be gaged for resiliency and measured for length to determine their suitability for re-use.

The accompanying table supplies all the necessary check data both in the open and closed positions according to the original engineered standards of efficiency and performance.



Engines

	Year	VALVE SPRINGS			
		Valve Open		Valve Closed	
		Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
MARMON-HERRINGTON					
J-5, J-6, JJ-5, JJ-6, LD-5, LD-6, LLD-5, LLD-6, OT-4, OT-5, OOT-4, OOT-5, M-5, M-6, MM-5, MM-6	1941-1944	76-80	1.827	37-40	2.13
6M-5, 6M-6, 6LD-6, 6OT-5	1942-1944	76-80	1.824	37-40	2.13
DSD-100, DSD-200, DSD-300	1941-1944	58	1.594	43	1.920
DSD-400, DSD-500, DSD-550, DSD, 550DR, DSD-600, DSD-700, DSD-800	1941-1944	102	$2\frac{1}{32}$	50	$2\frac{11}{32}$
DSD-900, DSD-1000 O.	1941-1944	84	$3\frac{5}{8}$	47	$3\frac{7}{32}$
DSD-900, DSD-1000 I.		45	$2\frac{11}{16}$	27	$3\frac{1}{4}$
OSHKOSH					
JCB, JDS, W-100, W-200	1939-1944	58.7	1.594	43	1.920
W-300, W-400, W-500, W-600, W-700, W-703, W-800	1939-1944	102	$2\frac{1}{32}$	50	$2\frac{11}{32}$
BG3, GD O.	1939-1944	84	$3\frac{5}{8}$	47	$3\frac{7}{32}$
BG3, GD I.		45	$2\frac{11}{16}$	27	$3\frac{1}{4}$
W-800, W-906	1939-1944	136	$2\frac{7}{16}$	87	$2\frac{11}{16}$
PETERBILT					
344DT, 354DT	1944	136	$2\frac{3}{16}$	87	$2\frac{11}{16}$
REO					
1B4, 1B4H, 1D4, 1D4H, 1BM7, 2B4, 2D4, 2L4, 2H, 2J, 2K, 2L, 2B, 2D, 2D4M, 2D4MH, 2BM7, 2L7M, 2L4H, 2L7MH, 2H5, 2J5, 3H, 3J, 3K, 3M, 3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5, 3L6H, 4H, 4J, 4K, 4M	1936-1938	135-145	$2\frac{1}{16}$	50-54	$2\frac{3}{4}$
19, 20, 21, 22, 23	1940-1942	135-145	$2\frac{1}{16}$	50-54	$2\frac{3}{4}$
STERLING (See Cummins & Waukesha Listings)					
STUDEBAKER					
J5-K5, J10-K10, J15-K15, M16	1937-1942	125-135	$1\frac{3}{4}$	57	$2\frac{3}{32}$
J20-K20, J25-K25	1937-1940	75-80	$1\frac{11}{16}$	41-45	$1\frac{13}{16}$
J30-K30	1937-1940	80-85	$2\frac{23}{64}$	45-50	$2\frac{3}{4}$
M5-M15	1941-1942	90-94	$1\frac{7}{16}$	37-41	$1\frac{3}{4}$
WALTER					
FN		64	$2\frac{1}{16}$	50	$2\frac{3}{4}$
FM, FKM, FCK, FC Exh.		87	$2\frac{17}{32}$	52	$2\frac{29}{32}$
FM, FKM, FCK, FC Int.		84	$2\frac{3}{16}$	52	$2\frac{29}{32}$
FB, FBR		140	$3\frac{1}{4}$	100	$3\frac{5}{8}$
FXB, FXR O.		84	$3\frac{5}{8}$	47	$3\frac{7}{32}$
FXB, FXR I.		45	$2\frac{11}{16}$	27	$3\frac{1}{4}$
ADK O.		48	1.449	27	1.844
ADK I.		30	1.355	17	1.750
ADB, ADV		136	$2\frac{3}{16}$	87	$2\frac{11}{16}$
WHITE					
706, 708, 710, 718, 750, 810, 818, 822, 850	1939-1940	Free length $3\frac{3}{16}$		(119-127	@ 2)
700, 704, 805, 904, WA-14, WA-18, WA-20, WA-22, WA-26, WA-34, WA-114, WA-118, WA-120, WA-122, WA-126, WA-134, 782	1939-1942	Free length $3\frac{1}{32}$		(99-107	@ $2\frac{1}{32}$)
WILLYS					
38, 48, 440	1938-1940	85.5	$1\frac{13}{16}$	46	$2\frac{1}{4}$
441, 441P, 442, 442P	1941-1942	116	$1\frac{3}{4}$	50	$2\frac{7}{64}$

	Year	VALVE SPRINGS			
		Valve Open		Valve Closed	
		Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
CONTINENTAL					
A6244 1st	1939-1940	105-111	$1\frac{27}{32}$	43.6-47.6	$2\frac{3}{16}$
A6244 2nd	1940-1944	111-118	1.521	53-59	$1\frac{7}{8}$
B6371, B6405 O.	1940-1944	102-110	1.521	45-51	$1\frac{7}{8}$
B6371, B6405 I.		28-32	$1\frac{11}{16}$	11.3-14.3	$1\frac{13}{16}$
E600, E601, E602, E603 O.		90-98	$1\frac{27}{32}$	43.5-49.5	$2\frac{1}{4}$
E600, E601, E602, E603 I.		31-35	$1\frac{3}{4}$	16.6-19.6	$2\frac{1}{32}$
F4124, F4140, F4162	1939-1944	78-86	$1\frac{27}{32}$	31-37	$1\frac{13}{16}$
F6170, F6199, F6209, F6218	1939-1944	98-104	$1\frac{3}{4}$	42.5-47.5	$1\frac{13}{16}$
M6271, M6290, M6330	1940-1944	111-118	1.521	53-59	$1\frac{7}{8}$
20R, 21R, 22R O.	1939-1944	106-115	$1\frac{7}{8}$	54.7-58.7	$2\frac{1}{4}$
20R, 21R, 22R I.		47-53	$1\frac{13}{16}$	20.4-24.4	$2\frac{1}{32}$
R6513, R6572, R6602 O.	1943-1944	160-170	$1\frac{3}{4}$	67-73	$2\frac{1}{4}$
R6513, R6572, R6602 I.		82-98	$1\frac{3}{4}$	32-37	$2\frac{1}{4}$
CUMMINS					
A Series (Int. & Exh.)		102-118		64-74	$3\frac{1}{16}$†
H Series (Int. & Exh.)		129-143		83-91	$3\frac{1}{32}$†
K, KO, L Series (Int. & Exh.)		226-250		105-115	$4\frac{1}{32}$†
HERCULES (Series)					
BX, ZX		35	$\frac{31}{64}$	22	$1\frac{1}{8}$
NX, IX-3, IX-5		42	$1\frac{1}{16}$	21	$1\frac{1}{16}$
OO, JX		58	1.594	43	1.920
K, L, G, E		73	$3\frac{1}{16}$	59	$3\frac{3}{16}$
TX		100	$3\frac{1}{16}$	73	$3\frac{9}{16}$
QX *		41	$1\frac{3}{32}$	17	$1\frac{11}{32}$
QX **		37	1.281	19	1.656
OX, WX, WXL, YX, RX, RXL		102	$2\frac{1}{32}$	50	$2\frac{11}{32}$
HX O.		84	$3\frac{5}{8}$	47	$3\frac{7}{32}$
HX I.		45	$2\frac{11}{16}$	27	$3\frac{1}{4}$
DIX, DOO, DXJ O.		55	1.406	31	1.781
DIX, DOO, DXJ I.		37	1.281	19	1.656
DRX O.		48	1.449	27	1.844
DRX I.		30	1.355	17	1.750
DHX, DFX O.		94	$2\frac{1}{32}$	55	$3\frac{11}{32}$
DHX, DFX I.		57	$2\frac{1}{32}$	32	$3\frac{7}{32}$
WAUKESHA					
ICK		24	$\frac{11}{32}$	16	$1\frac{3}{16}$
FCS, FC		66	$1\frac{5}{8}$	36	$1\frac{13}{16}$
XAH Exh.		68	$1\frac{5}{8}$	56	$1\frac{7}{8}$
XAH Int.		71	$1\frac{9}{16}$	56	$1\frac{7}{8}$
XBKH Exh. O.		95	$1\frac{13}{32}$	43	$2\frac{3}{32}$
XBKH Exh. I.		51	$1\frac{1}{2}$	28	$1\frac{7}{8}$
XBKH Int. O.		89	$1\frac{41}{64}$	35	$2\frac{1}{32}$
XBKH Int. I.		48	$1\frac{25}{64}$	24	$1\frac{15}{16}$
130HS, 130HL, Exh. O.		55	$1\frac{7}{16}$	26	$1\frac{23}{32}$
130GS, 130GL Exh. I.		100	$1\frac{11}{16}$	39	$2\frac{1}{16}$
130HS, 130HL, Int. O.		55	$1\frac{7}{16}$	26	$1\frac{23}{32}$
130GS, 130GL Int. I.		100	$1\frac{11}{16}$	39	$2\frac{1}{16}$
VIM, VIK, VIS, VIL		53	$1\frac{23}{32}$	38	$2\frac{1}{16}$
VBKH Exh. O.		55	$1\frac{23}{32}$	32	$1\frac{13}{16}$
VBKH Exh. I.		51	$1\frac{11}{16}$	28	$1\frac{7}{8}$
VBKH Int. O.		51	$1\frac{23}{32}$	25	$1\frac{23}{32}$
VBKH Int. I.		33	$1\frac{11}{16}$	22	$1\frac{15}{16}$
VRZ, VRZG, VRZH O.		72	$1\frac{5}{8}$	36	$1\frac{13}{16}$
VRZ, VRZG, VRZH I.		33	$1\frac{11}{64}$	22	$1\frac{15}{16}$
CHK, CHS		78	$2\frac{1}{16}$	54	$2\frac{1}{32}$
6BL, 6BK, 6BM, 6BZ		82	$1\frac{3}{4}$	48	$2\frac{1}{8}$
6BKH Exh. O.		91	$1\frac{3}{4}$	39	$2\frac{1}{8}$
6BKH Exh. I.		49	$1\frac{11}{32}$	26	$1\frac{23}{32}$
6BKH Int. O.		96	$1\frac{23}{32}$	35	$2\frac{3}{32}$
6BKH Int. I.		53	$1\frac{1}{2}$	24	$1\frac{11}{16}$
6MK, 6MZ, 6MKR, 6MZR		64	$2\frac{1}{16}$	50	$2\frac{5}{8}$
140GS, 140GK, 140HS, 140HK O.		75	$1\frac{23}{32}$	20	$2\frac{3}{16}$
140GS, 140GK, 140HS, 140HK I.		55	$1\frac{7}{16}$	26	$1\frac{23}{32}$
6SRLR, 6SRKR Exh.		87	$2\frac{13}{32}$	52	$2\frac{11}{32}$
6SRLR, 6SRKR Int.		84	$2\frac{1}{16}$	52	$2\frac{11}{32}$
145GS, 145GK, 145HS, 145HK O.		158	$2\frac{5}{8}$	67	$2\frac{13}{32}$
145GS, 145GK, 145HS, 145HK I.		100	$2\frac{1}{16}$	42	$2\frac{11}{32}$
6GAK, 6GAL O.		140	$2\frac{1}{16}$	61	$2\frac{1}{2}$
6GAK, 6GAL I.		79	$1\frac{23}{32}$	36	$2\frac{1}{16}$
6RBR		140	$3\frac{1}{4}$	100	$3\frac{5}{8}$

ENGINE SERVICE INCLUDING DATA

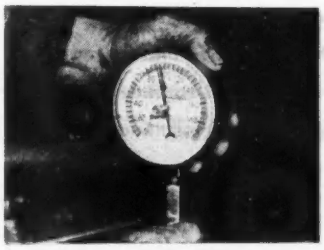
Specifications

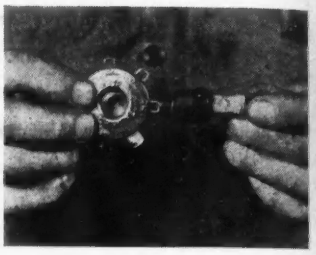
1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING

ABBREVIATIONS

*—Severe Service .018
Al—Aluminum
As—Strut Type Aluminum
Aa—Anodized Aluminum
CA—Cast Alloy
CI—Cast Iron
St—Alloy Steel
TP—Tin Plated Cast Iron
C—Cold
Bot—Bottom
Top—Top
AC—AC
AL—Auto-Life
Ch—Champion
†—46 for AF240, AFP240, CCV100
▲—Iron Alloy for 1942 models
††—Commercial 8AB, 18mm. plugs for 1941 models; J9, 14mm for 1942 models
Q—Qts.





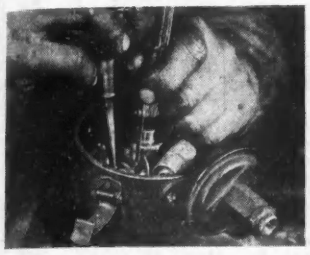
TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	OPERATING TAPPET CLEARANCE (Hot unless noted) Exhaust	SPARK PLUG Make	SPARK PLUG Type	SPARK PLUG Size	SPARK PLUG Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
AUTOCAR																		
RH, DF, RHT, DT, DFT, RHD, DP, 6D, DH, UD, UDF, UDT, UDP, 6RH, 6DF, 6UD, UDFT	Own 358	6-4x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	2 COM	⅞	P	D	8½°B	1 1/16B	98
N, NT, 6N, UN, UNT, 6UN, 4X4DF, 4X4N	Own 404	6-4¼x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	2 COM	⅞	P	Z	2°B	¼B	95
NF, NFT, 6NF, UNF, UNFT, 6UNF, S, US, N6OC, 4X4NF	Own 453	6-4½x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	2 COM	⅞	P	Z	2°B	¼B	98
TF, TFT, 6TF	Wau 6RB	6-5x5¾	Ala	Top	40-1750	10°A	3¾A	.020	.006	.010	Ch	2 COM	⅞	P	Z	9°B	3½B	88
RM, RL, RMT (1937)	Own 315	6-3¾x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	8½°B	1 1/16B	98
DP, D, 1TR, 6X2RL, RLD, UD, 1UTR, UPD, 6X2UD (1937-)	Own 358	6-4x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	O	⅞	P	D	8½°B	1 1/16B	98
DF, 2TR, 6X2DF, DH, UDF, 2UTR, 6XEUN, 4X4DF, 4X4N, 6X4DF (1937)	Own 404	6-4¼x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	O	⅞	P	Z	2°B	¼B	95
6X2UNF, 3UTR, 4UTR, 3TR, 4TR, 6X2NF, C, 4X4NF (1937)	Own 453	6-4½x4¾	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	O	⅞	P	Z	2°B	¼B	98
5T, UT, UTT, 6UT, N75C, 4X4S (1936-37), C, T, TT, 6X3T, 6X2UT, 5TR, 5UTR, 6X4TO 6X4UTO, 6X4UTD, 6X4TC, 6X4TD	Own 501	6-4¼x5¼	Ala	Top	40-2200	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	Z	2°B	¼B	95
A, UA, C10, C10T, U10, U10T	Her JXB	6-3⅝x4¼	Ala	Top	35-2600	2°A	.....	.010	.006	.006	Ch	O	⅞	P	Z	TC	TC	95
B, UB, C20, C20T, U20, U20T	Her JXC	6-3¾x4¼	Ala	Top	35-2600	2°A	.....	.010	.006	.006	Ch	O	⅞	P	Z	TC	TC	95
RB, URB	Own 315	6-3¾x4¾	Ala	Top	40-2200	TC	TC	.018	.015	.018	Ch	8 COM	18mm	P	D	9°B	1¼B	98
RL, RLS, 1TR, RLD, DP, 6X2RL, URL, URLS, UD, 1UTR, UDP, 6X2UD	Own 358	6-4x4¾	Ala	Top	40-2200	TC	TC	.018	.015	.018	Ch	2 COM	⅞	P	.....	9°B	1¼B	98
DF, N, 2TR, DH, 6X2DF, 6X4DF, UDF, UN, 2UTR, 6X2UN, 4X4DF	Own 408	6-4 1/16x5¼	Ala	Top	40-2200	TC	TC	.018	.015	.018	Ch	8 COM	18mm	P	.....	2°B	¼B	95
NF, 3TR, 4TR, S, 6X2NF, UNF, 3UTR, 4UTR, US, 6X2UNF, 4X4N	Own 447	6-4¼x5¼	Ala	Top	40-2200	TC	TC	.018	.015	.018	Ch	8 COM	18mm	P	.....	2°B	¼B	95
C30, C30T, U30, U30T	Own 315	6-3¾x4¾	Ala	Top	40-2600	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	6°B	1 1/16B	98
C30, C30T, U30, U30T (1941)	Own 331	6-3¾x5	Ala	Top	40-2600	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	6°B	1 1/16B	98
C40, C40T, C40D, C4062, C4064, U40, U40T, U40D, U4062, C50, C50D, U50, C60, U60, U60D	Own 358	6-4x4¾	Ala	Top	40-2600	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	6°B	1 1/16B	98
C40, C40T, C40D, C4062, C4064, U40, U40T, U40D, U4062, C50T, C50D, U50, C60, U60, U60D†(1941)	Own 377	6-4x5	Ala	Top	40-2600	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	2°B	¼B	95
C60T, C6044, C70, C70D, C7062, C7064, U60T, U70, U7062, U7064	Own 408	6-4 1/16x5¼	Ala	Top	40-2400	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	2°B	¼B	95
C7044, C70T, C80, C80T, C80D, C8062, U70T, U80, U80T, U80D, U8062	Own 447	6-4¼x5¼	Ala	Top	40-2400	TC	TC	.018	.015	.018	Ch	8 COM	18mm	P	D	2°B	¼B	95
C9064, C8044, C90, C90T, C90D, C9062, C9064, U90, U90T, U90D, U8064, U9062, U9064	Own 501	6-4¼x5¼	Ala	Top	40-2400	TC	TC	.020	.015	.018	Ch	8 COM	18mm	P	D	2°B	¼B	95
C9044	Her HXB	6-5x6	Ala	Top	40-2600	TC	TC	.....	.015	.018	Ch	8 COM	18mm	P	E	TC	TC	95
DC100T, DC100D, DC10044, DC10062, DC10064, DU100T, DU10062, DU10064	Cum HB6	6-4⅞x6	CI	Top	40-1900	.....	.....	.....	.012	.012	.....	.....	.....	.....	.....	.....	.....	.....
C50, C50T (1944)	Own 377	6-4x5	Ala	Top	40-2600	11°B	4B	.018	.015	.018	Ch	8 COM	18mm	P	D	6B	2B	98
C70T (1944)	Own 477	6-4¼x5¼	Ala	Top	40-2400	11°B	4B	.018	.015	.018	Ch	8 COM	18mm	P	D	6B	2B	95
C70, C70T, C90, C90T (1944)	Own 501	6-4¼x5¼	Ala	Top	40-2400	11°B	4B	.018	.015	.018	Ch	8 COM	18mm	P	D	6B	2B	95
DC100T, DC10062, DC10064 (1944)	Cum HB600	6-4⅞x6	CI	Top	40-1900	.....	.....	.012	.012	.....	Die	sel	.....	.....	.....	.....	.....	.....
BANTAM																		
(1938-39)	Own	4-2x3	Al	Top	8.5-30	19°B	4¼B	.011	.011	.012	Ch	HIO	14mm	.025	.022	TC	TC	120
(1940)	Own	4-2 1/16x3 1/16	Al	Top	30-50	19°B	4¼B	.011	.011	.012	Ch	HIO	14mm	.025	.022	4°B	.....	135
BROCKWAY																		
78 (1936-40)	Con24B	6-3 1/16x4⅜	CI	Top	20-20	2°B‡	½B	.015	.010	.010	Ch	8 COM	18mm	.025	.020	8°B	2½B	95
87, 90X (1936)	Con 28B	6-3⅝x4⅜	Al	Top	20-20	5°B	1½B	.012	.008	.010	Ch	0 COM	⅞	.025	.020	5°B	1½B	95
83, 88, 92, 94 (1936-40)	Con 25B	6-3 1/16x4⅜	Al	Top	20-20	5°B	1½B	.012	.008	.010	Ch	8 COM	18mm	.025	.020	5°B	1½B	95
125X (1936-40)	Con 31B	6-3½x4½	CI	Top	30-20	8°B	2½B	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8½°B	3B	90
96, 110, 130 (1936-40)	Con 29B	6-3 1/16x4½	CI	Top	30-20	8°B	2½B	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8½°B	3B	90
145 (1936-40)	Con 31B	6-3 1/16x4½	CI	Top	30-20	8°B	2½B	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8½°B	3B	90
150X4, 150X5 (1936-40)	Con 32B	6-4 1/16x4½	CI	Top	30-20	8°B	2½B	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8½°B	3B	90
160X, 180XSBT, 165X (1936-40)	Con 32B	6-4 1/16x4½	Al	Top	30-20	8°B	2½B	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8½°B	3B	90
170X (1936-40)	Con 33B	6-4 1/16x4¾	Al	Top	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5½B	82
175X, 180X-SBT Spec., 220X (1936-40)	Con 34B	6-4⅜x4¾	Al	Top	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5½B	82
195X (1936-40)	Con 33B	6-4 1/16x4¾	Al	Top	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5½B	82
240X, 260X (1936-40)	Con 35B	6-4 1/16x5¼	Al	Top	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5½B	82
112, 128 (1938-40)	Con 38B	6-3¾x4⅝	Al	Top	30-20	8°B	2¾B	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8½°B	3B	90
78 (1941-42)	Con 24B	6-3 1/16x4⅜	CI	Top	35-2000	2°B	2B	.014	.014C	.014C	Ch	6 COM	18mm	.025	.020	TC	.....	.....
83, 88, 92, 94 (1941-42)	Con 25B	6-3 1/16x4⅜	Al	Top	40-2000	5°B	5B	.0175	.017C	.024C	Ch	6 COM	18mm	.025	.020	6°B	.....	.....
112-128 (1941-42)	Con 38B	6-3¾x4⅝	Al	Top	40-2000	6½°B	.....	.022	.017C	.024C	Ch	6 COM	18mm	.025	.020	6°B	.....	.....
146, 147, 152 (1941-42)	Con 40B	6-4x4½	Al	Top	40-2000	6½°B	.....	.022	.017C	.024C	Ch	6 COM	18mm	.025	.020	6°B	.....	.....
153, 154, 162 (1941-42)	Con 41B	6-4 1/16x4⅝	Al	Top	55-2500	6½°B	.....	.022	.017C	.024C	Ch	6 COM	18mm	.025	.020	6°B	.....	.....

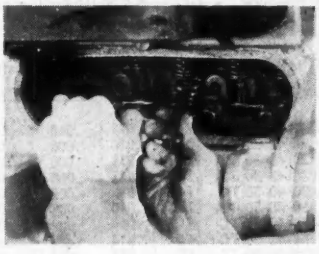
FOR ENGINE TUNE-UP

Fleet shops are paying greater attention to factory recommendations for engine tune-up and adjustment because the difference between approximate and accurate adjustments usually means wasteful gasoline and oil consumption or more frequent renewal of vital parts.

These specications have been compiled to provide key information for tune-up and general engine reconditioning work as recommended by truck and engine manufacturers. From these data the maintenance man can determine at a glance an engine's exact compression pressure at cranking speed; ignition timing as determined by flywheel markings, breaker point gap; spark plug data; valve timing by flywheel markings and intake tappet clearance for intake and exhaust valves; oil pressure based on road speed or r.p.m's, etc.

Bud—Buda
Cat—Caterpillar
Con—Continental
Cum—Cummins
Her—Hercules
Lyc—Lycoming
Opt—Optional
Var—Variable
Wau—Waukesha
A—.019-.023
S—.023-.028
B—If spark plug is J9 (14mm), breaker point gap is .018-.022
Z—.018-.022
ZZ—.025-.030
V—.012-.014
Y—.011-.012C
YY—.014-.016
SS—Semi-Steel
COM—Commercial
H—.015-.025
HH—.013-.015C
E—.018-.020
D—.018-.024
K—.020-.025
M—5°B for CC450, 3°B for CF450
P—.018-.023
R—.028-.032
T—.025-.028
■—90 min. to 135 max.





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TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	OPERATING TAPPET CLEARANCE (Hot unless noted) Exhaust	SPARK PLUG Make	SPARK PLUG Type	SPARK PLUG Size	SPARK PLUG Gap	Breaker Point Gap	Spark Occurs °TC B-Before	Spark Occurs °TC A-After	Spark Occurs Fly-Wheel Teeth TC B-Before	Spark Occurs Fly-Wheel Teeth TC A-After	Comp. Pressure at Cranking Speed
BROCKWAY—Continued																				
156, 166 (1941-42)	Con 42B	6-4 1/16x4 1/8	Al	Top	55-2500	6 1/2°B	.....	.022	.017C	.024C	Ch	6 COM	18mm	.025	.020	6°B	.....	.....		....
170X, 195X (1941-42)	Con 33B	6-4 1/16x4 1/4	Al	Top	30-2300	5°B	.....	.014	.018C	.018C	Ch	6 COM	18mm	.025	.020	15°B	.....	.....		....
175X, 220X (1941-42)	Con 34B	6-4 1/4x4 1/4	Al	Top	30-2300	5°B	.....	.014	.018C	.018C	Ch	6 COM	18mm	.025	.020	15°B	.....	.....		....
240X, 260X (1941-42)	Con 35B	6-4 1/2x5 1/4	Al	Top	30-2300	5°B	.....	.014	.018C	.018C	Ch	6 COM	18mm	.025	.020	15°B	.....	.....		....
CHEVROLET																				
1/2, 1 1/2 Ton (1934)	Own	6-3 1/16x4	CI	Top	.....	4°B	1 1/16B	.006	.006	.013	AC	K10	14mm	.032	.018	10°B	3 1/2B	83		
1/2, 1 1/2 Ton (1935)	Own	6-3 1/16x4	CI	Top	.....	8°B	3B	.006	.006	.013	AC	K11	14mm	.032	.018	5°B	1 1/16B	86		
1/2, 1 1/2 Ton (1936)	Own	6-3 1/16x4	CI	Top	.....	9°B	3 1/16B	.006	.006	.013	AC	K11	14mm	.032	.018	5°B	1 1/16B	112		
1/2, 1 1/2 Ton (1937)	Own	6-3 1/16x3 3/16	CI	Top	13 1/2-2621	9°B	3 1/16B	.006	.006	.013	AC	K11	14mm	.040	.018	5°B	2B	90■		
1/2, 3/4, 1, 1 1/2 Ton (1938)	Own	6-3 1/16x3 3/16	CI	Top	13 1/2-2621	9°B	3 1/16B	.006	.006	.013	AC	46	14mm	.040	.018	5°B	2B	90■		
1/2, 3/4, 1, 1 1/2 Ton (1939)	Own	6-3 1/16x3 1/4	CI	Top	13 1/2-2621	9°B	3 1/16B	.006	.006	.013	AC	44	14mm	.040	.018	5°B	2B	90■		
1/2, 3/4, 1, 1 1/2 Ton (1940)	Own	6-3 1/16x3 1/4	CI	Top	14-2000	3°B	1 1/16B	.006	.006	.013	AC	44	14mm	.040	.018	5°B	2B	90■		
1/2, 3/4, 1, 1 1/2 Ton (1941-44) (216.5 cu. in.)	Own	6-3 1/16x3 3/16	CI	Top	14-2000	3°B	1 1/16B	.006	.006	.013	AC	104	10mm	.040	.018	5°B	2B	90■		
1 1/2 Ton (1941-42, 44, 235.5 cu. in.)	Own	6-3 1/16x3 1/2	CI	Top	14-2000	3°B	1 1/16B	.006	.006	.013	AC	104	10mm	.040	.018	5°B	2B	90■		
CORBITT																				
12B (1936)	Wau 6RL	6-3 1/16x4 1/4	Al	Top	40-1500	TC	TC	.010	.010-.012	.010-.012	AC	D8-D10	18mm	.030	.025	5°B	.....	112		
F15, 14B (1936-37)	Wau 6BK	6-3 1/4x4 1/4	Al	Top	40-1500	TC	TC	.010	.012-.014	.012-.014	AC	D8-D10	18mm	.030	.025	5°B	.....	112		
14BT, Series 18, F18, Series 22 (1936-37)	Wau 6MK	6-4 1/16x4 1/4	CI	Top	40-1500	7°A	.....	.006	.008-.010	.012-.014	AC	D8-D10	18mm	.030	.025	7°B	.....	89		
Series 27D (1936)	Wau 6SRL	6-4 5/16x5 1/16	Al	Top	40-1500	6°A	.....	.009	.008-.010	.016-.018	AC	L8-L10	7/8	.030	.025	TC	TC	80		
F27, Series 35, 40 (1936-37)	Wau 6SRK	6-4 5/16x5 1/16	Al	Top	40-1500	7°A	.....	.006	.008-.010	.016-.018	AC	L8-L10	7/8	.030	.025	7°B	.....	80		
F12 (1936)	Wau 6BL	6-3 1/16x4 1/4	Al	Top	40-1500	TC	TC	.010	.010-.012	.010-.012	AC	D8-D10	18mm	.030	.025	5°B	.....	112		
F23 (1936)	Wau 6SRL	6-4 5/16x5 1/16	Al	Top	40-1500	6°A	.....	.009	.008-.010	.016-.018	AC	L8-L10	7/8	.030	.025	TC	TC	80		
F35 (1936)	Wau 6RB	6-5x5 5/8	Al	Top	40-1500	9°A	.....	.006	.008-.010	.016-.018	AC	L8-L10	7/8	.030	.025	7°B	.....	81		
12B (1937)	Lyc WFC	6-3 1/16x4 1/4	Al	Top	40-1500	TC	TC	.010	.010-.012	.010-.012	AC	KL-8	14mm	.030	.025	5°B	.....	112		
18BT, 22B (1937)	Wau 6MZ	6-4 1/4x4 1/4	Al	Top	40-1500	7°A	.....	.006	.008-.010	.012-.014	AC	D8-D10	18mm	.030	.025	7°B	.....	89		
22BT, F23 (1937)	Con 20-R	6-4 1/4x4 1/4	Al	Top	40-1500	5°B	1.9B	.01365	.010-.012	.017-.018	AC	.....	18mm	.030	.025	.....	.....	.....		....
27DT (1937)	Con 21-R	6-4 5/16x4 1/4	Al	Top	40-1500	5°B	1.9B	.01365	.010-.012	.017-.018	AC	.....	18mm	.....	.....	.....	.....	.....		....
13B, F12 (1937-41)	Con A6244	6-3 1/16x4 1/4	Al	Top	40-1500	5°B	1 1/16B	.012	.010	.012	AC	D8-D10	18mm	.030	.025	5°B	1 1/16B	....		
17B, 14BT, F12 (1937-41)	Con M6290	6-3 1/4x4 1/4	Al	Top	40-1500	5°B	1 1/16B	.012	.010	.012	AC	D8-D10	18mm	.030	.025	5°B	1 1/16B	....		
21B, F18 (1937-41)	Con E602	6-4 1/16x4 1/4	Al	Top	40-1500	8°B	2 1/16B	.012	.007	.012	AC	D8-D10	18mm	.030	.025	8°B	2 1/16B	102		
26D, 18BT (1937-41)	Con E603	6-4 1/16x4 1/4	Al	Top	40-1500	8°B	2 1/16B	.012	.007	.012	AC	D8-D10	18mm	.030	.025	8°B	2 1/16B	99		
22BT, F27 (1937-41)	Con 21R	6-4 5/16x4 1/4	Al	Top	40-1500	5°B	2B	.014	.012	.015	AC	D8-D10	18mm	.030	.025	10°B	3 1/16B	78		
27DT, F35 (1937-44)	Con 22R	6-4 5/16x5 1/16	Al	Top	40-1500	5°B	2B	.014	.012	.015	AC	D8-D10	18mm	.030	.025	10°B	3 1/16B	78		
F14 (1937-39)	Con M6271	6-3 5/16x4 5/16	Al	Top	40-1500	5°B	1 1/16B	.....	.....	.....	AC	D8-D10	18mm	.030	.025	5°B	1 1/16B	....		
17BT, F19 (1937-44)	Con M6330	6-4x4 1/16	Al	Top	40-1500	5°B	1 1/16B	.012	.010	.012	AC	D8-D10	18mm	.030	.025	5°B	1 1/16B	....		
F23 (1941)	Con 20R	6-4 1/16x4 1/4	Al	Top	40-1500	5°B	2B	.014	.012	.015	AC	D8-D10	18mm	.030	.025	10°B	3 1/16B	....		
D18BT (1940-44)	Cum A600	6-4x5	CI	Top	40-1500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		....
D27BT (1940-44)	Cum HB6	6-4 7/16x8	CI	Top	40-1500	.....	.....	.....	.012	.012	.....	.....	.....	.....	.....	.....	.....	.....		....
DIAMOND T																				
211, 227, 243, 212A, 212B, 228, 401, 402, 404, 405 (1935-1938)	Her JXA	6-3 5/16x4 1/4	CI	Top	25-30	5°A	1 1/16A	.006	.008	.010	AC	76	7/8	.027	.020	TC	TC	96 1/16		
220, 311, 221, 244, 313, 408, 507, 509, 611 (1935-38)	Her JXB	6-3 5/16x4 1/4	Al	Top	25-30	5°A	1 1/16A	.006	.008	.010	AC	76	7/8	.027	.020	TC	TC	103		
312, 351C, 320, 353, 607, 612, 613 (1935-38)	Her JXC	6-3 5/16x4 1/4	Al	Top	25-30	5°A	1 1/16A	.006	.008	.010	AC	76	7/8	.027	.020	TC	TC	102		
352, 360, 614 (1935-38), 614, 614C (1939)	Her JXD	6-4x4 1/4	Al	Top	25-30	5°A	1 1/16A	.006	.008	.010	AC	76	7/8	.027	.020	TC	TC	109		
412B (1935)	Her WXLC	6-4x4 3/4	Al	Top	25-30	2°A	1/16A	.010	.006	.010	AC	76	7/8	.027	.020	TC	TC	106		
412DR, 512B, 512DR (1935-38), 803C, 804C (1939)	Her WXLC3	6-4 1/4x4 3/4	Al	Top	25-30	2°A	1/16A	.010	.008	.010	AC	76	7/8	.027	.020	TC	TC	100		
80, 301 (1936-38), 201, 201C (1939)	Her QXB3	6-3 1/4x4 1/16	CI	Top	25-30	5°A	1 1/16A	.006	.006	.008	AC	75	7/8	.027	.020	TC	TC	....		
304, 401 (1937-38), 305, 305C, 306, 306C (1939)	Her QXC3	6-3 5/16x4 1/16	Al	Top	25-30	5°A	1 1/16A	.006	.006	.008	AC	75	7/8	.027	.020	TC	TC	....		
404, 404C (1939)	Her JXE3	6-3 1/2x4 1/4	Al	Top	25-30	5°A	1 1/16A	.....	.006	.008	AC	73	7/8	.027	.020	TC	TC	....		
406, 509, 509C (1939)	Her JXB	6-3 5/16x4 1/4	Al	Top	25-30	5°A	1 1/16A	.006	.008	.010	AC	73	7/8	.027	.020	TC	TC	....		
612, 612C (1939)	Her JXC	6-3 5/16x4 1/4	Al	Top	25-30	5°A	1 1/16A	.006	.008	.010	AC	73	7/8	.027	.020	TC	TC	....		
201 (1940 & Early 1941)	Her QXB3	6-3 1/4x4 1/16	CI	Top	25-35	5°A	1 1/16A	.006	.006	.008	AC	44	14mm	.027	.020	TC	TC	....		
305, 306, 306SC (1940 & Early 1941)	Her QXC3	6-3 5/16x4 1/16	Al	Top	25-35	5°A	1 1/16A	.006	.006	.008	AC	44	14mm	.027	.020	TC	TC	....		
404, 404SC (1940)	Her JXE3	6-3 1/2x4 1/4	Al	Top	25-35	2°A	3/4A	.010	.008	.010	AC	44	14mm	.027	.020	TC	TC	....		
406, 509, 509C (1940-41)	Her JXB	6-3 5/16x4 1/4	Al	Top	25-35	2°A	3/4A	.010	.008	.010	AC	44	14mm	.027	.020	TC	TC	....		
612, 612C (1940-41)	Her JXC	6-3 5/16x4 1/4	Al	Top	25-35	2°A	3/4A	.010	.008	.010	AC	44	14mm	.027	.020	TC	TC	....		
614, 614C (1940-41)	Her JXD	6-4x4 1/4	Al	Top	25-35	5°A	3/4A	.010	.008	.010	AC	44	14mm	.027	.020	TC	TC	....		
404C (1940-41)	Her JXE3	6-3 1/2x4 1/4	Al	Top	25-35	2°A	3/4A	.010	.008	.010	AC	44	14mm	.027	.020	TC	TC	....		
803C, 804C, 805, 808 (1940-41)	Her WXLC3	6-4 1/4x4 3/4	Al	Top	25-35	5°A	1 1/16A	.010	.008	.010	AC	44	14mm	.027	.020	TC	TC	....		
900 (1940-41)	Her RXLC3	6-4 5/16x5 1/4	Al	Top	25-35	2°A	3/4A	.010	.006	.010	AC	44	14mm	.027	.020	TC	TC	....		
201, 306, 306SC (Late 1941 & 1942)	Her QXD3	6-3 1/16x4 1/8	Al	Top	25-35	5°A	.....	.006	.006	.010	AC	44	14mm	.027	.020	TC	TC	....		
DODGE																				
KC, KCL, KH, Series LC	Own 201 cu in.	6-3 1/16x4 3/16	Al	Top	30-40-30	6°A	2 1/16A	.011	.006	.008	AC	K9	14mm	.025	.020	3°A	1 1/16A	....		
K32, K33, K34	Own 217 cu.in.	6-3 1/4x4 3/16	As	Top	30-40-30	6°A	2 1/16A	.011	.006	.008	AC	K9	14mm	.025	.020	2°A	3/4A	....		

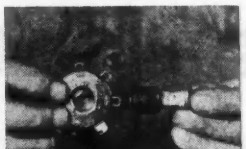
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1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING
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ENGINE SERVICE *Specifications*

(CONTINUED)



*—SevereService .018
Al—Aluminum
As—Strut Type Aluminum
Aa—Anodized Aluminum
CA—Cast Alloy
CI—Cast Iron
St—Alloy Steel
TP—Tin Plated Cast Iron
C—Cold
Bot—Bottom

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC A-After B-Before	Spark Occurs Fly-Wheel Teeth °TC A-After B-Before	Comp. Pressure at
						°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
DODGE—Continued																		
K35, K36, K37, K38, K45, K46, K47, K48	Own 241 cu.in.	6-3⅜x4½	Al	Top	30-40-30	TC	TC	.011	.008	.008	AC	K9	14mm	.025	.020	TC	TC	
K50, K51, K52, K70, K71, K72	Own 309 cu.in.	6-3⅝x5	As	Top	30-40-30	6°A	2½A	.010	.008	.010	AC	K9	14mm	.025	.020	4°B	1½B	
LE Series	Own 201 cu.in.	6-3⅛x4⅜	Aa	Top	30-40-30	6°A	2½A	.011	.006	.010	AC	K9	14mm	.025	.020	3°A	1½A	
LF Series	Own 217 cu.in.	6-3⅛x4⅜	Aa	Top	30-40-30	6°A	2½A	.011	.006	.010	AC	K9	14mm	.025	.020	2°A	¾A	
LG, LH Series	Own 241 cu.in.	6-3⅜x4½	Al	Top	30-40-30	TC	TC	.010	.006	.010	AC	K9	14mm	.025	.020	TC	TC	
K50V, K51V, K52V, K60V, K61V, K62V	Own 309 cu.in.	6-3⅝x5	As	Top	30-40-30	6°A	2½A	.010	.008	.010	AC	K9	14mm	.025	.020	3°B	1½B	
MC, RC (1937-38)	Own 218 cu.in.	6-3⅛x4¼	Aa	Top	30-40-30	TC	TC	.014	.008	.012	Ch	J8	14mm	.025	.020	TC	TC	
RD, MD Series (1937-38)	Own 218 cu.in.	6-3⅛x4¼	Aa	Top	30-40-30	TC	TC	.014	.008	.012	Ch	J8	14mm	.025	.020	TC	TC	
RE, ME Series (1937-38)	Own 218 cu.in.	6-3⅛x4¼	Aa	Top	30-40-30	TC	TC	.014	.008	.012	Ch	J8	14mm	.025	.020	4°B	1½B	
RF, MF Series (1937-38)	Own 228 cu.in.	6-3⅛x4¼	Aa	Top	30-40-30	TC	TC	.014	.008	.012	Ch	J8	14mm	.025	.020	4°B	1½B	
RG, RH, MG, MH Series (1937-38)	Own 241 cu.in.	6-3⅜x4½	Aa	Top	30-40-30	TC	TC	.014	.008	.012	Ch	J8	14mm	.025	.020	6°B	2½B	
RL, RK, RO, RP, ML, MK Series (1937-38)	Own 333 cu.in.	6-3¾x5	Aa	Top	30-40-30	6°A	2½A	.011	.008	.012	Ch	J8	14mm	.025	.020	6°B	2½B	
TC (1939)	Own 201 cu.in.	6-3⅛x4⅜	Aa	Top	30-40-30	6°A	2½A	.014	.006	.010	AL	A7	14mm	.025	.020	TC	TC	
TD (1939)	Own 218 cu.in.	6-3⅛x4⅜	As	Top	30-40-30	6°A	2½A	.014	.006	.010	Ch	J8	14mm	.025	.020	TC	TC	
TE (1939)	Own 218 cu.in.	6-3⅛x4¼	Aa	Top	30-40-30	8°B	3B	.014	.008	.012	Ch	J8	14mm	.025	.020	2°B	¾B	
TF (1939)	Own 228 cu.in.	6-3⅛x4¼	Aa	Top	30-40-30	8°B	3B	.014	.008	.012	Ch	J8	14mm	.025	.020	4°B	1½B	
TG, TH (1939)	Own 241 cu.in.	6-3⅜x4½	Aa	Top	30-40-30	8°B	3B	.014	.008	.012	Ch	J8	14mm	.025	.020	6°B	2½B	
TL, TK (1939)	Own 331 cu.in.	6-3¾x5	As	Top	30-40-30	6°A	2A	.014	.008	.012	AL	A7	14mm	.025	.020	2°B	¾B	
TLD, TKD (1939)	Own 331 cu.in.	6-3¾x5	As	Top	30-40-30	31°B		.017	.013	.013			Die sel					
VC (1940)	Own 201 cu.in.	6-3⅛x4⅜	AlTp	Top	30-40-30	6°A	2½A	.014	.006	.010	AL	A7	14mm	.025	.020	TC	TC	
VD (1940)	Own 218 cu.in.	6-3⅛x4⅜	As	Top	30-40-30	6°A	2½A	.014	.005	.010	AL	A7	14mm	.025	.020	TC	TC	
VF, VM (1940)	Own 228 cu.in.	6-3⅛x4¼	AlTp	Top	30-40-30	12°B	5B	.014	.008	.012	AL	A7	14mm	.025	.020	TC	TC	
VG, VH (1940)	Own 241 cu.in.	6-3⅜x4½	AlTp	Top	30-40-30	12°B	5B	.014	.008	.012	AL	A7	14mm	.025	.020	TC	TC	
VL, VK, WL, WK (1940-41)	Own 331 cu.in.	6-3¾x5	As	Top	30-40-30	6°A	2½A	.014	.008	.012	Ch	J8	14mm	.025	.020	2°A	¾A	
VLD, VKD, WLD, WKD (1940-41)	Own 331 cu.in.	6-3¾x5	As	Top	30-40-30	31°B	15B	.017	.013	.013			Die sel					
WC (1941)	Own 201 cu.in.	6-3⅛x4⅜	Al	Top	30-40-30	9°B		.014	.008	.010	AL	A7A	14mm	.025	.020	TC	TC	
WD (1941)	Own 218 cu.in.	6-3⅛x4⅜	Al	Top	30-40-30	9°B		.014	.008	.010	AL	A7A	14mm	.025	.020	TC	TC	
WF, WFM (1941)	Own 228 cu.in.	6-3⅛x4¼	Al	Top	30-40-30	12°B	5B	.014	.008	.012	AL	A7A	14mm	.025	.020	TC	TC	
WG, WH, WGM, WHM (1941)	Own 241 cu.in.	6-3⅜x4½	Al	Top	30-40-30	12°B	5B	.014	.008	.012	AL	A7A	14mm	.025	.020	TC	TC	
WC, WD15 (1942)	Own 218 cu.in.	6-3⅛x4⅜	CI	Top	30-40-30	12°B	5B	.014	.008	.010	AL	A7	14mm	.025	.020	3°B		
WD20, WD21 (1942)	Own 230 cu.in.	6-3⅛x4⅝	CI	Top	30-40-30	12°B	5B	.014	.008	.010	AL	A7	14mm	.025	.020	2°A		
WF, WFM (1942)	Own 237 cu.in.	6-3⅛x4¼	CI	Top	30-40-30	12°B	5B	.014	.008	.012	AL	A7	14mm	.025	.020	TC		
WG, WH, WGM, WHM (1942)	Own 251 cu.in.	6-3⅛x4½	CI	Top	30-40-30	12°B	5B	.014	.008	.012	AL	A7	14mm	.025	.020	2°A		
WL, WK (1942)	Own 331 cu.in.	6-3¾x5	As	Top	30-40-30	6°A	2½A	.014	.008	.012	Ch	J8	14mm	.025	.020	2°A		
WLD, WKD (1942)	Own 331 cu.in.	6-3¾x5	As	Top	30-40-30	31°B		.017	.0135	.0135								
FEDERAL																		
15X, 15, 15K, 75, 75H, 75K	Her JXA	6-3⅜x4½	....	Top	25-1500	5°A	1½A	.006	.008	.010	AC	.....	⅞	.025	.020	TC	TC	
18X, 18K, 20, 20K, 21, 22, 80, 80H, 80K	Her JXB	6-3⅜x4½	....	Top	25-1500	5°A	1½A	.006	.008	.010	AC	.....	⅞	.025	.020	TC	TC	
25, 25K, 85, 85H, 85K	Her JXC	6-3⅜x4½	....	Top	25-1500	5°A	1½A	.006	.008	.010	AC	.....	⅞	.025	.020	TC	TC	
30	Wau 6MS	6-3½x4⅝	CI	Top	35-1500	8°A	3A	.004	.010	.012	AC	86	18mm	.025	.020	TC	TC	
40, 40F	Wau 6MK	6-4¼x4⅝	CI	Top	35-1500	8°A	3A	.004	.010	.012	AC	86	18mm	.025	.020	TC	TC	
50, 50F	Wau 6MZ	6-4¼x4⅝	CI	Top	35-1500	8°A	3A	.004	.010	.012	AC	.....	.....	.025	.020	TC	TC	
63, 66, C7, C8, C7W, C8W, C8H	Wau 6SRK	6-4⅝x5½	....	Top	35-1500	10°A	3½A	.004	.010	.012	AC	⅞	⅞	.025	.020	TC	TC	
DM (1936)	Con W10	4-3⅞x4¼	....	....	....	....	....	....	....	....	AC	.....	.....	.025	.020	TC	TC	
10	Her OOB	4-3⅜x4½	....	Top	16-1100	5°A	.....	.008	.008	.012	AC	⅞	⅞	.025	.020	TC	TC	
28	Her JXC	6-3⅜x4¼	....	Top	26-2600	5°A	.....	.....	.008	.010	AC	⅞	⅞	.025	.020	TC	TC	
29, 29K, 87H, 89, 89K	Her JXD	6-4x4¼	....	Top	26-2600	5°A	.....	.....	.008	.010	AC	⅞	⅞	.025	.020	TC	TC	
40DR	Wau 6MK	6-4¼x4⅝	CI	Top	35-1500	8°A	3A	.....	.008	.016	AC	.....	⅞	.025	.020	TC	TC	
T10B, T10W	Con 18R	6-4x4½	....	Top	35-1500	....	.....	.....	....	....	AC	.....	⅞	.025	.020	TC	TC	
X8RDR-X8R, 7, 7M	Wau 6SRK	6-4⅝x5½	....	Top	35-1500	10°A	3A	.004	.008	.016	AC	⅞	⅞	.025	.020	TC	TC	
9	Con 4140	4-3¾x4⅜	CI	Top	25-1500	TC	TC	.014	.010	.012	AC	86	18mm	.025	.020	TC	TC	
11, 11K, 11H	Her QXB3	6-3½x4½	....	Top	25-1500	.....	.....	.....	.006	.008	AC	.....	⅞	.025	.020	TC	TC	
12K, 14K	Her QXC3	6-3⅜x4½	Al	Top	25-1500	.....	.....	.....	.008	.008	AC	.....	⅞	.025	.020	TC	TC	
62, 65	Con 22R	6-4½x5½	Al	Top	25-1500	.....	.....	.014	.013	.018	AC	86	18mm	.025	.020	TC	TC	
8, 11, M8, M11 (1940-42)	Her QXB	6-3½x4½	CI	Top	40-2500	5°B	.....	.006	.006	.008	AC	44	14mm	.025	.020	10°B	3B	
12, 14, M12, M14 (1940)	Her QXC	6-3⅝x4½	CI	Top	40-2500	5°B	.....	.006	.006	.008	AC	44	14mm	.025	.020	10°B	3B	
15, 75 (1940)	Her JXA	6-3⅜x4½	Al	Top	40-2500	5°A	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
18, 20, 80 (1940-42)	Her JXB	6-3⅜x4½	Al	Top	40-2500	5°A	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
25, 85 (1940-42)	Her JXC	6-3⅜x4½	Al	Top	40-2500	5°A	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
29, 29H, 89, 89H (1940-42)	Her JXD	6-4x4½	Al	Top	40-2500	5°A	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
40 (1940)	Wau 6MKR	6-4⅛x4⅝	Al	Top	35-1500	8°A	3A	.004	.010	.012	AC	84	18mm	.025	.020	3°B	1B	
50, 50H (1940)	Wau 6MZR	6-4¼x4⅝	Al	Top	35-1500	8°A	3A	.004	.010	.012	AC	84	18mm	.025	.020	3°B	1B	
63, 66 (1940-42)	Wau 6SRK	6-4⅝x5½	Al	Top	35-1500	10°A	3A	.004	.010	.012	AC	73	⅞	.025	.020	10°B	3B	
62, 65 (1940-42)	Con 22R	6-4½x5½	Al	Top	30-1000	.....	.....	.014	.012	.012	AC	83	⅞	.025	.020	15°B		
16, 76 (1941-42)	Her JXF	6-3½x4½	Al	Top	40-2500	5°A	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
17, 77 (1941-42)	Her JXG	6-3½x4½	Al	Top	40-2500	5°A	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
35, 90 (1941-42)	Her WXC3	6-4¼x4½	Al	Top	40-2500	2°A	.....	.010	.008	.010	AC	44	14mm	.025	.020	TC	TC	
45, 55, 92, 94 (1941-42)	Her WXLC3	6-4¼x4⅝	Al	Top	40-2500	2°A	.....	.010	.008	.010	AC	44	14mm	.025	.020	TC	TC	
18M (1944)	Her JXB	6-3⅜x4½	Al	Top	40-2500	5°B	.....	.008	.006	.008	AC	44	14mm	.025	.020	10°B	3B	
29M (1944)	Her JXD	6-4x4½	Al	Top	40-2500	5°B	.....	.008	.006	.006	AC	44	14mm	.025	.020	10°B	3B	
45M, 55M (1944)	Con B6427	6-4½x4⅞	Al	....	55-2600	6½°B	.....	.....	.017	.022	AC	.....	18mm	.025	.020	7°B		
60M (1944)	Con 22R	6-4½x5½	Al	Top	30-1000	5½°B	.....	.014	.012	.012	AC	83	18mm	.025	.020	15°B		
FORD																		
51, V8 (1935-36)	Own	8-3 1/16x3¾	CA	Top	30-2000	9½°B	3B		Y	Y	Y	Ch	7	18mm	.025	YY	4°B	
75, V8(1937)	Own	8-2.6x3.2	St	Top	30-3200	9½°B			Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
79, V8 (1937)	Own	8-3 1/16x3¾	St	Top	30-2000	TC	TC		Y	Y	Y	Ch	H10	18mm	.025	YY	4°B	
81T, 81TT, 81Y, 81C (1938)	Own	8-3 1/16x3¾	CA	Top	30-2000	TC	TC		Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
82Y, 82C (1938)	Own	8-2.6x3.2	CA	Top	30-2000	9½°B	.....		Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
91T, 91TT, 91IW, 91W, 91TW, 91Y, 91C (1939)	Own	8-3 1/16x3¾	CA	Top	30-2000	TC	TC		Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
99T, 99TT, 99IW, 99W, 99TW (1939)	Own	8-3 1/16x3¾	CA	Top	30-2000	TC	TC		Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
92Y, 922C, 02D, 02Y, 022C (1939-40)	Own	8-2.6x3.2	St	Top	30-2000	9½°B			Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
01ST, 01T, 01W, 011W, 01D, 01Y, 01C (1940)	Own	8-3 1/16x3¾	St	Top	30-2000	TC	TC		Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
09ST, 09T, 09W, 091W (1940)	Own	8-3 1/16x3¾	St	Top	30-2000	TC	TC		Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	
11ST, 11T, 11W, 111W, 11D 11Y, 11C, 11U (1941)	Own	8-3 1/16x3¾	St	Top	30-2000	TC	TC	.015	.011C	.015C	Ch	H9	14mm	.032	YY	4°B		
11ST, 19T, 19W, 191W, 19U, 19ST (1941)	Own	8-3 1/16x3¾	St	Top	30-2000	TC	TC	.015	.011C	.015C	Ch	H9	14mm	.032	YY	4°B		
1ND, 1NY, 1NC, 2ND, 2NY, 2NC (1941-42)	Own	4-3 1/16x3¾	St	Top	30-2000	6°B	.....	.015	.011C	.015C	Ch	H9	14mm	.032	YY	1°B		
1GC, 2GC, 1GD, 2GD, 1GT, 2GT, 1GU, 2GU, 1GY, 2GY, 1GST, 2GST (1941-42)	Own	6-3.3x4.4	St	Top	30-2000	3°B	.....	.015	HH	HH	Ch	H9	14mm	.030	YY	2°B		

ABBREVIATIONS

Top—Top
AC—AC
AL—Auto-Life
Ch—Champion
†—46 for AF240, AFP240. CCV100
▲—Iron Alloy for 1942 models
††—Commercial 8AB, 18mm. plugs for 1941 models; J9, 14mm for 1942 models
Q—Qts.

Bud—Buda
Cat—Caterpillar
Con—Continental
Cum—Cummins
Her—Hercules
Lyc—Lycoming
Opt—Optional
Var—Variable
Wau—Waukesha
A—.019-.023

S—.023-.028
B—If spark plug is J9 (14mm), breaker point gap is .018-.022
Z—.018-.022
ZZ—.025-.030
V—.012-.014
Y—.011-.012C
YY—.014-.016
SS—Semi-Steel
COM—Commercial

H—.015-.025
HH—.013-.015C
E—.018-.020
D—.018-.024
K—.020-.025
M—5°B for CC450, 3°B for CF450
P—.018-.023
R—.028-.032
T—.025-.028

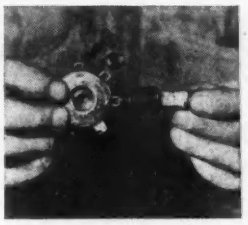


TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	Exhaust	SPARK PLUG Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
FORD—Continued																		
21C, 21D, 21T, 21U, 21W, 21Y, 211W, 218T, 218W (1942)	Own	8-3 1/16x3 3/4	St	Top	30-2000	TC	TC	.015	.011C	.015C	Ch	H9	14mm	.025	YY	4°B	.....	••
29C, 29D, 29T, 29U, 29W, 29Y, 291W, 298T, 298W (1942)	Own	8-3 1/16x3 3/4	St	Top	30-2000	TC	TC	.015	.011C	.015C	Ch	H9	14mm	.025	YY	4°B	.....	.....
498T, 494T (1944)	Own	8-3 1/16x3 3/4	Al	Top	30-2000	TC	TC	.015	.011C	.015C	Ch	H9	14mm	.025	YY	4°B	.....	112
GWD																		
MJ6	Wau 6-125	6-4 5/8x5 1/2	Al	Top	40-45	42°B	15B	.008	.012	.020	Ch	J8	14mm	.025	.015	3°B	.....	96
M7, M6x6, T60, T65 (1939)	Wau RBR	6-5x5 3/4	Al	Top	35-1000	10°A	4A	.008	.007	.009	Ch			.025	.015		.....	.....
HS, T-26	Wau 6BK	6-3 3/4x4 1/4	Al	Top	40-2800	5°A	.....	.010	.010	.014	Ch	7 COM	18mm	.025	.015	23°B	.....	.....
HA, T-30	Wau 6BZ	6-4x4 1/4	Al	Top	40-2500	5°A	.....	.010	.010	.014	Ch	7 COM	18mm	.025	.015	23°B	.....	.....
HM, HH6, HG, HR, T-32	Wau 6MKR	6-4 1/8x4 3/4	Al	Top	40-2500	8°A	.....	.004	.008	.014	Ch	7 COM	18mm	.025	.015	24°B	.....	.....
CUA, CU	Wau 6MZR	6-4 1/4x4 3/4	Al	Top	40-2500	8°A	.....	.004	.008	.014	Ch	7 COM	18mm	.025	.015	24°B	.....	.....
SUA, SU	Wau 6SRLR	6-4 5/8x5 1/2	Al	Top	40-2250	8°A	.....	.004	.008	.016	Ch	1 COM	7/8	.025	.015	22°B	.....	.....
YU, MJ6, MJ6X6, T40	Wau 6SRKR	6-4 5/8x5 1/2	Al	Top	40-2250	8°A	.....	.004	.008	.016	Ch	1 COM	7/8	.025	.015	18°B	.....	.....
M8	Wau 6-140GK	6-4 1/2x5 1/2	Al	Top	40-2250	5°A	.....	.006	.014	.016	Ch	COM	7/8	.025	.015		.....	.....
M7, T60, T65, M6X6	Wau 6-145GK	6-5 1/4x6	Al	Top	40-2000	5°A	.....	.006	.012	.024	Ch	COM	7/8	.025	.015		.....	.....
M10, M6X6	Her HXE	6-5 3/4x6	Al	Top	40-2000	5°B	.....	.010	.010	.016	Ch	O	7/8	.025	.015	3°B	.....	.....
M6X6	Cum HB600	6-4 7/8x6	Cl	Top	55-	5°B	.....	.014	.014	.022	Diesel						.....	.....
GENERAL MOTORS																		
T84, T78, T78T (1935)	Own 450	6-4 3/8x5	Al	Top	42-	8°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z	17°B	.....	.....
T83, T75, T75H (1935)	Own 400	6-4 1/2x5	Al	Top	42-	8°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z	17°B	.....	.....
T81, T51W, T74, T74H (1935)	Own 331	6-3 3/4x5	Al	Top	35-	9°A	.....	.012	.012	.012	AC	G9	18mm	.035	Z	17°B	.....	.....
T43, T73, T73H (1935)	Own 257	6-3 1/16x4 5/8	Al	Top	30-	4°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z	15°B	.....	.....
T16 (1935)	Olds 6	6-3 1/16x4 1/2	Al	Top	30-	5°B	.....	.010	.010	.010	AC	G9	18mm	.035	Z		.....	.....
T18H (1936)	Own 239	6-3 1/16x4 5/8	Al	Top	30-	4°B	.....	.012	.012	.012	AC	K7	14mm	.025	Z	15°B	.....	.....
T18, T23 (1935)	Own 221	6-3 1/16x4 5/8	Al	Bot	30-	4°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z	15°B	.....	.....
T23H, T33 (1935)	Own 257	6-3 7/16x4 5/8	Al	Top	30-	4°B	.....	.012	.012	.012	AC	K7	14mm	.035	Z	15°B	.....	.....
T33, T33H (1936)	Own 286	6-3 5/8x4 5/8	Al	Top	30-	4°B	.....	.012	.012	.012	AC	K7	14mm	.025	Z	15°B	.....	.....
T46H, T46 (1935)	Own 331	6-3 3/4x5	Al	Top	35-	9°A	.....	.012	.012	.012	AC	G9	18mm	.035	Z	17°B	.....	.....
T61 (1935)	Own 400	6-4 1/2x5	Al	Top	42-	8°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z	17°B	.....	.....
T61H, T61 (1936)	Own 400	6-4 1/2x5	Al	Top	42-2300	8°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z	17°B	.....	.....
T14, T16, T16H (1936)	Olds 6	6-3 1/16x4 1/2	Al	Top	30-	5°B	.....	.008	.008	.010	AC	G9	18mm		Z		.....	106
T18 (1936)	Own 239	6-3 1/16x4 5/8	Al	Top	30-	4°B	.....	.012	.012	.012	AC	K7	14mm	.025	Z	15°B	.....	.....
T46, T74 (1936)	Own 331	6-3 3/4x5	Al	Top		18°A	.....	.012	.012	.012	AC	G9	18mm	.035	Z		.....	.....
T23, (1936)	Own 257	6-3 7/16x4 5/8	Al	Top	30-	4°B	.....	.012	.012	.012	AC	G9	18mm	.035	Z		.....	.....
T74H (1936)	Own 331	6-3 3/4x5	Al	Top	35-	18°A	.....	.012	.012	.012	AC	G9	18mm	.035	Z		.....	.....
T75 (1936)	Own 400	6-4 1/2x5	Al	Top	42-	8°B	.....	.018	.012	.012	AC	G9	18mm	.035	Z		.....	.....
T78 (1936)	Own 450	6-4 3/8x5	Al	Top	42-	8°B	.....	.018	.012	.012	AC	G9	18mm	.035	Z		.....	.....
T14, T16, F16, T16H, F16H (1937)	Olds 6	6-3 1/16x4 1/2	Aa	Top	30-	5°B	.....	.008	.008	.011	AC	G9	18mm	.033	D	2°B	.....	110
T18, F18, T18H, F18H (1937)	Own 239	6-3 1/16x4 5/8	Al	Top	35-	4°B	.....	V	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T23, F23, T23H, F23H (1937)	Own 257	6-3 7/16x4 5/8	Al	Top	30-	4°B	.....	V	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T33, F33, T33H, F33H (1937)	Own 286	6-3 5/8x4 5/8	Al	Top	30-	4°B	.....	V	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T46, F46 (1937)	Own 331	6-3 3/4x5	Al	Top	42-2400	18°A	.....	V	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T46, 400, F46 (1937)	Own 400	6-4 1/2x5	Al	Top	42-	8°B	.....	V	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T61, F61 (1937)	Own 400	6-4 1/2x5	Al	Top	42-	8°B	.....	.018	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T61, F61 (1937)	Own 450	6-4 3/8x5	Al	Top	42-	8°B	.....	.018	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T61H, F61H (1937)	Own 400	6-4 1/2x5	Al	Top	42-	8°B	.....	.018	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T61H, F61H (1937)	Own 450	6-4 3/8x5	Al	Top	42-	8°B	.....	.018	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T14, T145, T15, T155 (1938)	Own 223	6-3 7/16x4	Cl	Top	35-45	5°B	.....	.0125	.012	.012	AC	45	14mm	.030	D	5°B	.....	.....
T16, T16H, F16, F16H (1938)	Own 230	6-3 7/16x4 1/2	Aa	Top	28-35	5°B	.....	.008	.011	.011	AC	45	14mm	.030	D	TC	TC	.....
T18, F18, T18H, F18H (1938)	Own 239	6-3 1/16x4 5/8	Al	Top	35-	4°B	.....	.012	V	V	AC	K7	14mm	.035	D	15°B	.....	.....
T23, T23H, F23, F23H (1938)	Own 257	6-3 7/16x4 5/8	Al	Top	35-	4°B	.....	.012	V	V	AC	K7	14mm	.035	D	15°B	.....	.....
T33, T33H, F33, F33H (1938)	Own 286	6-3 5/8x4 5/8	Al	Top	35-	4°B	.....	.012	V	V	AC	K7	14mm	.035	D	15°B	.....	.....
T46, F46 (1938)	Own 331	6-3 3/4x5	Al	Top	42-2400	18°A	.....	.012	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
T61, T61H, F61, F61H (1938)	Own 400	6-4 1/2x5	Al	Top	42-45	8°B	.....	.012	V	V	AC	K7	14mm	.035	Z	15°B	.....	.....
AC100, AC150, AC200, AC250 (1939-41)	Own 228	6-3 7/16x3 11/16	Al	Top	40-1000	28°B	10½B	.....	.006	.013	AC	44	14mm	.025	D		.....	.....
AC300, AF300, AC350, AF350 (1939-41)	Own 228	6-3 7/16x3 11/16	Al	Top	40-1000	28°B	10½B	.....	.006	.013	AC	44	14mm	.025	D	TC	TC	.....
AC400, AF400, AC450, AF400 (1939-41)	Own 248	6-3 13/16x3 11/16	Al	Top	40-1000	28°B	10½B	.....	.006	.013	AC	44	14mm	.025	D		.....	.....
AF240, AFP240, CC100 to CC350, CF300, CF350, CCK350, CCT350, CCV100, CCW350, up to Engine No. 228-87569	Own 228	6-3 7/16x3 11/16	Al	Top	40-1000	28°B	.....	.....	.006	.013	AC	44†	14mm	.025	D	3°B	.....	.....
Engine No. 228-87569 and up	Own 228	6-3 7/16x3 13/16	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44†	14mm	.025	D	3°B	.....	.....
CC350, CCT350, CF350, CFT350, CCW350, CFW350, Engine No. 238-001 and up	Own 236	6-3 5/8x3 11/16	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44	14mm	.025	D	3°B	.....	.....
CC400, CC450, CCT400, CF400, CF450, CFT400, CCW400, CFW400, up to Engine No. 248-17848	Own 248	6-3 13/16x3 11/16	Al	Top	40-1000	28°B	.....	.....	.006	.013	AC	44	14mm	.025	D	3°B	.....	.....
Engine No. 248-17848 and up	Own 248	6-3 13/16x3 13/16	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44	14mm	.025	D	3°B	.....	.....
CCKW350, up to Engine No. 256-02769	Own 256	6-3 13/16x3 11/16	Al	Top	40-1000	28°B	.....	.....	.006	.013	AC	44	14mm	.025	D	3°B	.....	.....
Engine No. 256-02769 and up	Own 256	6-3 13/16x3 13/16	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44	14mm	.025	D	3°B	.....	.....
CC450 Spec., CF450 Spec., up to Engine No. 270-11344	Own 270	6-3 13/16x4	Al	Top	40-1000	28°B	.....	.....	.006	.013	AC	44	14mm	.025	D	M	.....	.....
Engine No. 270-11344 and up	Own 270	6-3 13/16x4	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44	14mm	.025	D	M	.....	.....
AC500, AF500, AC550, AF550 (1939-40)	Own 278	6-3 5/8x4 1/2	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44	14mm	.025	D	TC	.....	.....
AC600, AF600, AC650, AF650 (1939-40); AC520, AF520 (1942)	Own 308	6-3 11/16x4 1/2	Al	Top	40-1000	4°B	.....	.012	.012	.012	AC	44	14mm	.025	D	TC	.....	.....
AC700, AF700 (1939-40); AC620, AC700, AC770, AF620, AF700, AY700 (1942)	Own 361	6-4 1/16x4 1/2	Al	Top	40-1000	8°B	.....	.018	.012	.012	AC	44	14mm	.025	D	TC	.....	.....
AC800, AF800 (1939-40); AC720, AC800, ACX870, AF720, AF800, AY800 (1942)	Own 426	6-4 1/4x5	Al	Top	40-1000	8°B	.....	.018	.012	.012	AC	44	14mm	.025	D	TC	.....	.....
AC850, AF850 (1939-42)	Own 451	6-4 5/8x5	Al	Top	40-1000	8°B	.....	.018	.012	.012	AC	44	14mm	.025	D	TC	.....	.....
AC750, AC850, AF750, AF850, ACX890, AY850	Own 477	6-4 1/2x5	Al	Top	40-1000	8°B	.....	.018	.012	.012	AC	44	14mm	.025	D	TC	.....	.....
GRAMM																		
15 (1937-39), 11, 21 (1940)	Her QXB	6-3 1/4x4 1/2	Cl	Top	26-2600	5°A	.....	.008	.008	.010	Ch	3 COM	7/8	.025	.020		.....	103
25, 30 (1937-39)	Her JXA	6-3 5/8x4 1/4	Cl	Top	26-2600	5°A	.....	.008	.008	.010	Ch	3 COM	7/8	.025	.020		.....	110
40, 45, 50 (1937-39), 46, 56 (1940-42)	Her JXB	6-3 5/8x4 1/2	Cl	Top	26-2600	5°A	.....	.008	.008	.010	Ch	3 COM	7/8	.025	.020		.....	102
55, 70 (1937-39), 71 (1940-42)	Her JXC	6-3 5/8x4 1/4	Al	Top	26-2600	5°A	.....	.008	.008	.010	Ch	3 COM	7/8	.025	.020		.....	101
75, 85 (1937-39), 76, 86 (1940-42)	Her JXD	6-4x4 1/4	Al	Top	26-2800	5°A	.....	.008	.008	.010	Ch	3 COM	7/8	.025	.020		.....	101
DJX55, DJX40, DJX70 (1937-39), D46, D56 (1940-42)	Her DJXB	6-3 5/8x4 1/2	Al	Top	40-2000	12°B	.....	.016	.016	.016	Diesel						.....	150
DJX75, DJX85 (1937-39), D71 (1940-42)	Her DJXC	6-3 5/8x4 1/2	Al	Top	40-2000	12°B	.....	.016	.016	.016	Diesel						.....	150

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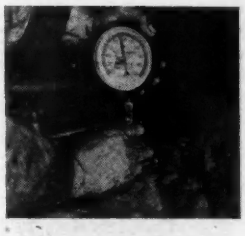
ENGINE SERVICE *Specifications*

(CONTINUED)



*—Severe Service .018
Al—Aluminum
As—Strut Type Aluminum
Aa—Anodized Aluminum
CA—Cast Alloy
CI—Cast Iron
St—Alloy Steel
TP—Tin Plated Cast Iron
C—Cold
Bot—Bottom

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	OPERATING TAPPET CLEARANCE (Hot unless noted) Exhaust	SPARK PLUG Make	SPARK PLUG Type	SPARK PLUG Size	SPARK PLUG Gap	Breaker Point Gap	Spark Occurs °TC B-Before	Spark Occurs Fly-Wheel Teeth °TC A-After
GRAMM—Continued																	
31 41 (1940-42)	Her QXC	6-3⅛x4½	CI	Top	26-2600	5°A	.....	.008	.008	.010	Ch	3 COM	⅞	.025	.020	.....	.....
96 (1940-42)	Her WXLC3	6-4¼x4¾	Al	Top	26-2600	2°A	.....	.010	.006	.010	Ch	3 COM	⅞	.025	.020	.....	.....
D76 (1940-42)	Bud 6DT317	6-3⅝x5½	Al	Top	35-1500	20°B	.....	.016	.016	.016	Die	sel	.....	.....	.....	.....	.....
D96, D96 (1940-42)	Bud 6DT389	6-3⅞x5½	Al	Top	35-1500	12°B	.....	.016	.016	.016	Die	sel	.....	.....	.....	.....	.....
HUG																	
15	Wau 6BL	6-3¼x4¼	CI	Top	30-1000	TC	TC	.010	.006-.008	.010-.012	Ch	COM 7	18mm	.025	H	25°B	8B
19 (1939), 19W, 83W (1940); 6B6P-83W (1942)	Wau 6BK	6-3¼x4¼	CI	Top	40-1500	TC	TC	.010	.010-12	.014-16	Ch	COM 7	18mm	.025	H	25°B	8B
23	Bud H298	6-3⅝x4½	CI	Top	30-1000	TC	TC	.008	.008	.008	Ch	COM 7	18mm	.025	H	27°B	9⅛B
42, 70	Bud K369	6-4⅛x4¾	SS	Top	30-1000	TC	TC	.006	.006	.008	Ch	COM 7	18mm	.025	H	30°B	10⅛B
43A, 43T, 87K, 87Q, 43-4, 87K4	Bud K428	6-4⅝x4¾	SS	Top	30-1000	TC	TC	.006	.006	.008	Ch	COM 7	18mm	.025	H	27°B	9⅛B
43L, 97L, 97LD, 87Q4	Bud L525	6-4⅛x5½	SS	Top	30-1000	TC	TC	.006	.006	.008	Ch	COM 7	18mm	.025	H	22°B	7⅝B
99	Bud GF6	6-4⅝x6	CI	Bot	30-1000	5°A	2½A	.010	.010C	.016C	Ch	COM 7	18mm	.025	H	20°B	8⅛B
15W (1940-41)	Wau 6BM	6-3⅝x4¼	CI	Top	40-1500	TC	TC	.010	.010-12	.014-16	Ch	COM 7	18mm	.025	.025	25°B	8B
23W, 85W (1940-42)	Wau 6BZ	6-4x4¼	CI	Top	40-1500	TC	TC	.010	.010-12	.014-16	Ch	COM 7	18mm	.025	.025	25°B	8B
42W, 87W (1940-42) CB8P (1941-42)	Wau 6MZR	6-4¼x4¾	CI	Top	40-1500	8°A	3A	.004	.010-12	.014-16	Ch	COM 7	18mm	.025	.025	25°B	8B
43W, 46-4 (1940-42)	Wau 6GAL	6-5x5½	CI	Top	40-1500	TC	TC	.008	.010-12	.014-16	Ch	COM 7	18mm	.025	.025	25°B	8B
44-4 (1940-42)	Wau 6SRLR	6-4⅝x5½	CI	Top	40-1500	10°A	3A	.004	.008-10	.016-18	Ch	COM 2	⅞	.025	.025	22°B	7B
45-4, 92U (1940-42)	Wau 6SRKR	6-4⅝x5½	CI	Top	40-1500	10°A	3A	.004	.008-10	.016-18	Ch	COM 2	⅞	.025	.025	22°B	7B
98, 99, 99S, 99CD, 99MB (1940-42)	Wau 6RBR	6-5x5¾	Al	Top	40-1500	10°A	4A	.008	.006-8	.010-12	Ch	COM 1	⅞	.025	.025	17°B	6B
23W, 85W (1941); CB7P (1942)	Wau 6BZ	6-4x4¼	CI	Top	40-1500	TC	TC	.010	.010-12	.014-16	Ch	COM 7	18mm	.025	.025	25°B	8B
51-6 (1942)	Here HXC	6-5¼x6	Al	Top	35-1600	5°B	.....	.015	.010	.016	Ch	QM-2	14mm	.025	.025	.....	.....
INDIANA																	
84, 85, 86, 87	Her JXB	6-3⅝x4¼	Al	Top	26-2600	5°A	1½A	.010	.008	.010	....	COM 1	⅞	.022	E	TC	TC
95, 95DR, 95SW75, 95SBT151	Her JXC	6-3¼x4¼	Al	Top	26-2600	5°A	1½A	.010	.008	.010	....	COM 1	⅞	.022	E	TC	TC
17, 17DR, 17SW251, 17SBT251, 19DR	Her YXC	6-4⅜x4¾	Al	Top	26-2600	2°A	¾A	.012	.010	.012	....	COM 1	⅞	.022	E	TC	TC
17A, 17ADR, 17ASW251	Her WXC	6-4x4½	Al	Top	26-2600	2°A	¾A	.012	.010	.012	....	COM 1	⅞	.022	E	TC	TC
84	Her OOB	4-3⅝x4½	Al	Top	26-2400	5°A	1½A	.010	.008	.010	....	COM 1	⅞	.022	E	TC	TC
INTERNATIONAL																	
CI, C15, C30, CS30, C30S	Own HD3	6-3⅞x4½	CI	Top	25-600	TC	TC	.010	.010	.010	AC	G9	18mm	K	D	8°B	1⅛B
A1, A2, B2, M2, M3, C10, C20, CS20	Wau XAH	4-3⅝x4½	CI	Bot	20-2200	10°A	3A	.004	.005	.007	AC	A8	⅞	K	D	5°B	1⅛B
B3	Own FAB2	6-3⅞x4	CI	Bot	40-1400	10°A	3A	.024	.015	.015	AC	A8	⅞	K	D	5°B	1⅛B
C3	Wau FK	4-3¼x4	CI	Top	20-600	.....	.....	.....	.....	.....	Ch	C7	18mm	.....	.....	.....	.....
C35, C35B, CS35, CS35B, C35T, CS35T, B4, C40, CS40, C40T, C40F	Own FAB3	6-3⅞x4	CI	Bot	40-1400	10°A	3A	.024	.015	.015	AC	A8	⅞	K	D	5°B	1⅛B
A4, A5, A6, C50, C50T	Own FBB	6-3⅝x4½	Al	Bot	40-1800	10°A	3½A	.016	.015	.015	AC	A8	⅞	K	D	10°B	3⅛B
C55, C55F, C55T, C60, C60T	Own FBB3	6-3⅝x4½	Al	Top	40-1800	10°A	3½A	.016	.015	.015	AC	A8	⅞	K	D	10°B	3⅛B
A7, A7F	Own FDB	6-4⅜x5½	CI	Bot	40-1800	10°A	4½A	.011	.011	.013	AC	A8	⅞	K	D	5°B	2⅛B
A8	Own FEB	6-5x5½	CI	Bot	40-1700	10°A	4½A	.011	.011	.013	AC	A8	⅞	K	D	5°B	2⅛B
D2, D15	Own HD213	6-3⅞x4⅛	CI	Top	25-600	TC	TC	.010	.010-12	.012-14	AC	D7	18mm	K	D	6°B	1⅜B
D30, D536, D30B, DS30B, D300, DS300, D186T, DS186T	Own HD232	6-3⅞x4½	CI	Top	25-600	TC	TC	.010	.010-12	.012-14	AC	D7	18mm	K	D	6°B	1⅜B
D35, DS35, D35B, D216T	Own FAB241	6-3⅝x4½	Al	Top	40-800	10°A	.....	.024	.015	.015	AC	A8	⅞	K	D	3°B	1B
D40	Own FAB259	6-3½x4½	Al	Top	40-1200	10°A	.....	.024	.015	.015	AC	A8	⅞	K	D	3°B	1B
D50, D246T, D246F, D500	Own FBB298	6-3⅝x4½	Al	Top	40-1600	10°A	.....	.016	.015	.015	AC	A9	⅞	K	D	10°B	3⅛B
D60, DR60	Own FBB361	6-4½x4½	Al	Top	40-1400	5°A	.....	.016	.015	.015	AC	A9	⅞	K	D	10°B	3⅛B
DR70, DR346T, D346F, D700	Own FBB401	6-4½x5	Al	Top	40-1400	5°A	.....	.016	.015	.015	AC	A9	⅞	K	D	6°B	3⅛B
DR426F	Own FBB450	6-4⅝x5	Al	Top	40-1400	.....	.....	.016	.015	.015	AC	A9	⅞	K	D	10°B	3⅛B
AR626F	Own FEB648	6-5x5½	Al	Top	40-1100	7½°A	.....	.011	.011	.013	AC	A8	⅞	K	D	5°B	2°B
K1, K2, K3, K4, KS-4, K5, KS-5 (1941-42)	Own GRD176	6-3x4½	CI	Top	25-600	10°B	.....	.020	.015	.017	AC	87S	18mm	R	D	4°B	.....
K1, K2, K3, K4, KS-4 (1941-42)	Own GRD214	6-3⅛x4½	CI	Top	25-600	10°B	.....	.020	.015	.017	AC	87S	18mm	R	D	4°B	.....
K5, KS-5, K5COE (1941-42)	Own GRD233	6-3⅛x4½	CI	Top	25-600	10°B	.....	.020	.015	.017	AC	87S	18mm	R	D	4°B	.....
K6, K6-T, K6-F (1941-42); KS6, KS6T (1942)	Own BLD250	6-3⅞x4½	Al	Top	40-1800	5°B	.....	.023	.015*	.015*	AC	43	14mm	R	D	3°B	.....
K7, K7-COE (1941-42); KS7, KS7-COE (1942)	Own BLD269	6-3⅞x4½	Al	Top	40-1800	5°B	.....	.023	.015*	.015*	AC	43	14mm	R	D	3°B	.....
K8, K8-T, K8-F (1941-42); KR8, KS8, K8-COE, KR8-COE, KS8-COE, KR8T, KS8T (1942)	Own FBC318	6-3⅞x4½	Al	Top	40-1800	5°A	.....	.016	.015*	.015*	AC	75	⅞	R	D	10°B	.....
K-10 (1941-42); KS10, KR10 (1942)	Own FBC361	6-4⅛x4½	Al	Top	40-1800	5°A	.....	.016	.015*	.015*	AC	75	⅞	R	D	10°B	.....
KR11, KR11-T, K-11-F, KR11-COE (1941-42); KS11, KS11-COE, KS11T (1942)	Own FBC401	6-4⅛x5	Al	Top	40-1800	5°A	.....	.016	.015*	.015*	AC	75	⅞	R	D	6°B	.....
K12-F	Own FBC450	6-4⅝x5	Al	Top	40-1800	5°A	.....	.016	.015*	.015*	AC	75	⅞	R	D	10°B	.....
KR11, KS11 (1944)	Own Red 450	6-4⅝x5	AL	Top	40-1500	8°B	.....	.023	E	E	AC	43	14mm	R	D	TC	.....
KENWORTH																	
89, 99, 99SBT, 99SW, 90	Her JXC	6-3¾x4¼	....	Top	26-2600	5°A	.....	.006	.006	.006	Ch	1 COM	⅞	.025	.020	TC	TC
127	Her WXC	6-4x4½	....	Top	26-2600	2°A	.....	.010	.006	.010	Ch	1 COM	⅞	.025	.020	TC	TC
128	Her WXC2	6-4⅛x4½	....	Top	26-2600	2°A	.....	.010	.006	.010	Ch	1 COM	⅞	.025	.020	TC	TC
146B	Bud K393	6-4⅛x4¾	....	Top	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
186	Her YXC2	6-4½x4¾	....	Top	26-2600	2°A	.....	.010	.006	.010	Ch	1 COM	⅞	.025	.020	TC	TC
241	Her RXB	6-4½x5¼	Al	Top	26-2600	2°A	.....	.010	.006	.010	Ch	1 COM	⅞	.025	.020	TC	TC
513 (1938)	Her JXD	6-4¼x4¼	Al	Top	26-2600	5°A	.....	.008	.008	.010	.....	.....	⅞	.025	.020	TC	TC
525, 526, 527, 528, 541, 542 (1938-40-41-42)	Bud L0525	6-4½x5½	Al	Top	25-1000	10°B	.....	.009	.008	.012	.....	.....	14mm	.025	.020	10°B	.....
529, 530, 531, 532, 539, 540 (1938)	Bud K428	6-4⅝x4¾	Al	Top	25-1000	TC	TC	.006	.006	.008	.....	.....	18mm	.025	.015	10°B	.....
533, 534, 535 (1938)	Bud K393	6-4⅛x4¾	SS	Top	25-1000	TC	TC	.006	.008	.008	.....	.....	18mm	.025	.015	10°B	.....
536, 537, 538 (1938)	Her JXM	6-3¾x4¼	Al	Top	26-2600	5°A	.....	.006	.006	.006	.....	.....	⅞	.025	.020	TC	TC
553, 554, 555, 558 (1940-42)	Her WXLC3	6-4¼x4¾	Al	Top	26-2600	2°A	.....	.010	.006	.010	.....	.....	⅞	.025	.020	16°B	.....
536, 537, 538, 543, 544, 545, 560, 561, 562, 563 (1940-42)	Her JXDM	6-4x4¼	Al	Top	26-2600	5°A	.....	.008	.008	.010	.....	.....	⅞	.025	.020	TC	TC
505, 506, 507, 508, 509, 513, 514, 515, 516 (1941-42)	Cum HB4	4-4⅞x6	CI	Top	55-	5°B	.....	.....	.012	.015	....	Die	sel	.....	.....	.....	.....
510, 511, 512, 519, 520, 521, 522, 523, 524, 552, 548, 549, 550 (1941-42)	Cum HB6	6-4⅞x6	CI	Top	55-	5°B	.....	.....	.025	.025	....	Die	sel	.....	.....	.....	.....
549, 550 (1941-42)	Cum HB6	6-4⅞x6	CI	Top	55-	5°B	.....	.....	.025	.025	....	Die	sel	.....	.....	.....	.....
548, 549, 550 (1941-42)	Cum HBS6	6-4⅞x6	CI	Top	55-	77°B	.....	.....	.025	.025	....	Die	sel	.....	.....	.....	.....
543, 544, 545, 546, 559 (1941-42)	Cum AA600	6-4x5	CI	Top	55-	.....	.....	.....	.....	.....	....	Die	sel	.....	.....	.....	.....
529, 530, 531, 532 (1941-42), 556 (1942)	Wau 6MZR	6-4¼x4¾	Al	Top	40-1500	.....	.....	.....	.006	.014	.....	.....	14mm	.020	.....	.....	.....
564, 565, 566, 567 (1941-42)	Cat D468	6-4¼x5½	Al	Top	15-45	.....	.....	.....	.010	.010	.....	.....	.....	.....	.....	.....	.....
528 (1944)	Bud Lo-525	6-4½x5½	Al	Top	25-1000	10°B	.....	.009	.008	.012*	.....	.....	14mm	.025	.020	10°B	.....
523, 552 (1944)	Cum HB-6	6-4⅞x6	CI	Top	55-	5°B	.....	.014	.014	.022	Die	sel	.....	.....	.....	.....	.....
524, 548 (1944)	Cum HBS-6	6-4⅞x6	Al	Top	55-	77°B	.....	.016	.016	.028	Die	sel	.....	.....	.....	.....	.....



ABBREVIATIONS

Top—Top
AC—AC
AL—Auto-Life
Ch—Champion
†—46 for AF240, AFP240, CCV100
^—Iron Alloy for 1942 models
††—Commercial 8AB, 18mm. plugs for 1941 models; J9, 14mm for 1942 models
Q—Qts.

Bud—Buda
Cat—Caterpillar
Con—Continental
Cum—Cummins
Her—Hercules
Lyc—Lycoming
Opt—Optional
Var—Variable
Wau—Waukesha
A—.019-.023

A—30-40
S—.023-.028
B—If spark plug is J9 (14mm), breaker point gap is .018-.022
Z—.018-.022
ZZ—.025-.030
V—.012-.014
Y—.011-.012C
YY—.014-.016
SS—Semi-Steel

COM—Commercial
H—.015-.025
HH—.013-.015C
E—.018-.020
D—.018-.024
K—.020-.025
M—5°B for CC450, 3°B for CF450
P—.018-.023
R—.028-.032
T—.025-.028

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
						°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
LA FRANCE REPUBLIC																		
C3, D4, E4	Wau 6BK	6-3⅜x4½	Al	Top	40–	TC	TC	.010	.006-.008	.010-.012	AC	86	18mm	.025				112
F4, H6	Wau 6MK	6-4½x4⅝	Al	Top	40–	8°A	3A	.004	.004-.006	.012-.014	AC	86	18mm	.025				80
K1	Wau 6SRL	6-4⅝x5½	Al	Top	40–	10°A	3A	.004	.006-.008	.016-.018	AC	76	⅞	.025				80
M4	Wau 6-125	6-4⅝x5½	CI	Top	40–	42°B	15B	.010	.010-.012	.018-.020	AC	85	18mm	.025				98
EH5B, EH5D, EH6B, EH6D	Wau 6BZ	6-4x4½	Al	Top	40-1500	5°A	2A	.010	.010-.012	.014-.016	AC	86	18mm	.025				112
FH5B, FH5D, HH7	Wau 6MZR	6-4½x4⅝	Al	Top	40-1500	8°A	3A	.004	.008-.010	.014-.016	AC	86	18mm	.025				90
KH2	Wau 6SRLR	6-4⅝x5½	Al	Top	40-1500	8°A	3A	.004	.008-.010	.016-.018	AC	76	⅞	.025				98
MH5	Wau 6SRKR	6-4⅝x5½	Al	Top	40-1500	8°A	3A	.004	.008-.010	.016-.018	AC	76	⅞	.025				98
MARMON-HERRINGTON																		
A10-4	Her JXA	6-3⅜x4½	....	Top	26-2600	2°A	½A	.006	.006	.006	Ch	1 COM	⅞	.025	.020	TC	TC	96
A30-4	Her WXC	6-4x4½	....	Top	26-2600	2°A	¾A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	92
A40-4, A50-4	Her WXC3	6-4½x4½	....	Top	26-2600	2°A	¾A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	92
TH300-4	Her YXC	6-4⅝x4¾	....	Top	26-2600	2°A	¾A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	91
TH310-4	Her YXC3	6-4⅝x4¾	....	Top	26-2600	2°A	¾A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	91
TH310A-4, TH310A-6	Her RXC	6-4½x5¼	Al	Top	26-2600	2°A	¾A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	103
TH315-4, TH315-6	Her HXB	6-5x6	Al	Top	35-1600	5°B	2B	.015	.010	.016	Ch	1 COM	18mm	.025	.020	TC	TC	105
TH320-4, TH320-6	Her HXC	6-5¼x6	Al	Top	35-1600	5°B	2B	.015	.010	.016	Ch	1 COM	18mm	.025	.020	TC	TC	105
B10-4, C10-4, DSD100-4	Her JXB	6-3⅝x4½	Al	Top	25 Max.	2°A	½A	.006	.006	.006	Ch	2 COM	⅞	.025	.020	TC	TC	96
A20-4, B20-4, C20-4, C20-6, DSD200-4, DSD200-6	Her JXC	6-3¾x4¾	Al	Top	25 Max.	2°A	½A	.006	.006	.006	Ch	2 COM	⅞	.025	.020	TC	TC	114
B30-4, C30-4, C30-6, DSD300-4, DSD300-6	Her JXD	6-4x4¼	Al	Top	25 Max.	2°A	½A	.006	.006	.006	Ch	2 COM	⅞	.025	.020	TC	TC	114
B40-4, B40-6, C40-4, C40-6, DSD400-4, B50-4, B50-6 C50-4, C50-6, DSD500-4, DSD500-6	Her WXC3	6-4¼x4½	Al	Top	25 Max.	2°A	¾A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	92
B60-4, C55-4, C55, DR4, C60-4, C60-6, DSD550, DR4, DSD600-4, DSD600-6	Her RXB	6-4½x5¼	Al	Top	25 Max.	2°A	¾A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	103
B70-4, B70-6, C70-4, DSD700-4, DSD700-6	Her RXB	6-4½x5¼	Al	Top	25 Max.	2°A	¾A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	103
B80-4, B80-6, C80-4, C80-6, DSD800-4, DSD800-6	Her RXC	6-4⅝x5¼	Al	Top	25 Max.	2°A	¾A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	103
TH415-4, TH415-6, TH515-4, TH515-6	Her HXB	6-5x6	Al	Top	25 Max.	5°B	2B	.015	.010	.016	Ch	8 COM	18mm	.025	.020	TC	TC	105
TH420-4, TH420-6, DSD900-4, DSD900-6	Her HXD	6-5¼x6	Al	Top	25 Max.	5°B	2B	.015	.010	.016	Ch	8 COM	18mm	.025	.020	TC	TC	105
B5-4x4, B6-4x4, B5-6x6, B6-6x6, B5-6x4, B6-6x4	Ford V8	8-3⅛x3¾	Al	Top	40 Max.	9½°B	....	Y	Y	Y	Ch	7 COM	18mm	.025	.020	TC	TC	95
TH520-4, TH520-6, DSD1000-4, DSD1000-6	Her HXE	6-5¾x6	Al	Top	25 Max.	5°B	2B	.015	.010	.016	Ch	8 COM	18mm	.025	.020	TC	TC	105
LD1 (1937), CSA-4, CSB-4, C5-4, C6-4 (1937), C5-6, C-6 (1937)	Ford V8	8-3⅛x3¾	St	Top	40 Max.	.....	.....	Y	Y	Y	.....	.....	18mm	.025	YY	4°B	.....	100
LD2-4, E5-4, E5-6, E6-4, E6-6 (1938)	Ford V8	8-3⅛x3¾	CA	Top	30-2000	TC	TC	Y	Y	Y	Ch	8 COM	14mm	.025	YY	4°B	.....	100
LD3-4, F5-4, F6-4, F5-6, F6-6, OT2-4 (1939)	Ford 85	8-3⅛x3¾	CA	Top	30-2000	TC	TC	Y	Y	Y	Ch	8 COM	14mm	.025	YY	4°B	.....	100
FF5-4, FF6-4, FF5-6, FF6-6, OOT2-4 (1939)	Ford 95	8-3⅛x3¾	CA	Top	30-2000	TC	TC	Y	Y	Y	Ch	8 COM	14mm	.025	YY	4°B	.....	100
H5-4, H6-4, H5-6, H6-6, LD4-4, OT3-4 (1940)	Ford 85	8-3⅛x3¾	St	Top	30-2000	TC	TC	Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	.....	100
HH5-4, HH6-4, HH5-6, HH6-6, LLD4-4, OOT3-4 (1940)	Ford 95	8-3⅛x3¾	St	Top	30-2000	TC	TC	Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	.....	100
J5-4, J6-4, J5-6, J6-6, LD5-4, OT4-4 (1941)	Ford 85	8-3⅛x3¾	St	Top	30-2000	TC	TC	Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	.....	100
JJ5-4, JJ6-4, JJ5-6, J56-6, LLD5-4, OOT4-4 (1941)	Ford 95	8-3⅛x3¾	St	Top	30-2000	TC	TC	Y	Y	Y	Ch	H10	14mm	.025	YY	4°B	.....	100
LD6, P-4, LD6-4, OT5-4, M5-4, M6-4, M5-6, M6-6, M5-COE-4, M6-COE-4, M5-COE-6, M6-COE-6, (1942-43)	Ford 90	8-3⅛x3¾	St	Top	30-2000	TC	TC	Y	Y	Y	Ch	8 COM	14mm	.025	YY	4°B	.....	100
LLD6, P-4, LLD6-4, OOT5-4, MM5-4, MM6-4, MM5-6, MM6-6, MM5-COE-4, MM6-COE-4, MM5-COE-6, MM6-COE-6 (1942-43)	Ford 100	8-3⅛x3¾	St	Top	30-2000	TC	TC	Y	Y	Y	Ch	8 COM	14mm	.025	YY	4°B	.....	100
6LD6, P-4, 6LD6-4, 6OT5-4, 6M5-4, 6M6-4, 6M5-6, 6M6-6, 6M5-COE-4, 6M6-COE-4, 6M5-COE-6, 6M6-COE-6 (1942-43)	Ford 6-90	6-3.3x4.4	St	Top	30-2000	3°B	.....	.015	.015	.015	Ch	8 COM	14mm	.025	YY	4°B	.....	100
OSHKOSH																		
WLX	Her WXC2	6-4½x4½	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	95
JCB	Her JXC	6-3¾x4¼	Al	Top	26-2600	5°A	.....	.008	.008	.010	Ch	1 COM	⅞	.025	.020	.....	.....	115
JD	Her JXD	6-4x4¼	Al	Top	26-2600	5°A	.....	.008	.008	.010	Ch	1 COM	⅞	.025	.020	.....	.....	115
FD, FB-35, FB, W700	Her RXC	6-4⅝x5¼	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	110
B3S, B3D, WLD, W300, W2300	Her WXC3	6-4¼x4½	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	95
C3S, C3D, W400	Her YXC2	6-4½x4⅝	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	95
FC-35, R3S, FS, FC, W500, W600	Her RXB	6-4½x5¼	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	110
BG3	Her HXB	6-5x6	Al	Top	35-1600	5°B	.....	.010	.010	.016	Ch	1 COM	⅞	.025	.020	.....	.....	100
GD	Her HXE	6-5¾x6	Al	Top	35-1600	5°B	.....	.010	.010	.016	Ch	1 COM	⅞	.025	.020	.....	.....	115
W800, W703	Her RXLD	6-4¼x5¼	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	110
W-400	Her YXC3	6-4⅝x4¾	Al	Top	26-2600	2°A	.....	.006	.006	.010	Ch	1 COM	⅞	.025	.020	.....	.....	95
W-100	Her JXC	6-3¾x4¼	Al	Top	26-2600	5°A	.....	.008	.008	.010	Ch	1 COM	⅞	.025	.020	.....	.....	115
W-200	Her JXD	6-4x4¼	Al	Top	26 2800	5°A	.....	.008	.008	.010	Ch	1 COM	⅞	.025	.020	.....	.....	115
W1400	CumNHBS600	6-5½x6	CI	Top	(A)-1800	5°B	.....	.....	.014	.022	.....	.....	.....	.....	.....	.....	.....	525
W-900, W906	Cum HB600	6-4½x6	CI	Top	55–	15°A	.....	.....	.025	.025	.....	.....	.....	.....	.....	.....	.....	.....
PETERBILT																		
344DT, 354DT (1944)	Cum HB6	6-4⅞x6	CI	Top	55–	15°A	.....	.....	.025	.025	Die	sel	.....	.....	.....	.....	.....	.....
REO																		
1B4, 1D4	Own	6-3½x5	Al	Bot	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	4B	80
1B, 1D	Own	6-3½x5	Al	Bot	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	3B	80
2L, 2B, 2D	Own	6-3⅝x5	Al	Bot	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	3B	80
2B4, 2D4, 2L4	Own	6-3⅝x5	Al	Bot	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	4B	80
2H, 2J, 2K, 3H, 3J, 3K, 3M	Own	6-3⅝x5	Al	Top	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	4B	80
4H, 4J, 4K, 4M	Own	6-3⅝x5	Al	Bot	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	4B	80
6AP, 1A4, 1C4 (1936)	Own	6-3⅞x4⅝	Al	Top	30-2000	2°B	½B	.012	.008	.010	Ch	C7	18mm	.025	.020	3°B	1B	85
1A4H, 1C4H, 1B4, 1D4, 2D4M (1936)	Own	6-3⅝x4½	Al	Bot	40 Max.	5°B	2B	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	4B	85
1B4H, 1D4H, 2D4MH, 2B4, 2D4, 2H5, 2J5, 3H5, 3J5 3K5, 3HR5, 3JR5, 3KR5 (1936)	Own	6-3⅝x5	Al	Bot	40 Max.	TC	TC	.012	.008	.010	Ch	C7	18mm	.025	.020	10°B	4B	80
4H5, 4J5, 4K5 (1936-1937)	Bud K428	6-4⅝x4¾	SS	Top	40-20	TC	TC	.006	.006	.010	Ch	C7	18mm	.025	.020	10°B		70
450, 475 (1937)	Own S140	4-3⅞x4⅝	Al	Top	35-20	TC	TC	.012	.008	.010	Ch	J7	14mm	.025	.020	5°B	1½B	90
650, 675, 1A4, 1C4 (1937)	Own S209	6-3⅞x4⅝	Al	Top	35-20	2°B	½B	.012	.008	.010	Ch	J6	14mm	.025	.020	2°B	½B	90
1A4H, 1C4H, 1B4, 1D4 (1937)	Own S228	6-3⅝x4¼	Al	Bot	35-20	5°B	2B	.012	.008	.010	Ch	J6	14mm	.025	.020	8½°B	3½B	80
1B4H, 1D4H (1937)	Own S3	6-3⅝x5	Al	Bot	35-20	18°A	7½A	.012	.008	.010	Ch	J6	14mm	.025	.020	8½°B	3½B	80
2B4, 2D4, 2H5, 2J5 (1937)	Own S3	6-3⅝x5	Al	Bot	35-20	TC	TC	.012	.008	.010	Ch	J6	14mm	.025	.020	8½°B	3½B	80
3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5 (1937)	Own S5	6-3⅝x5	Al	Top	35-20	TC	TC	.012	.008	.010	Ch	J6	14mm	.025	.020	8°B	3B	80
450, 450L, 475, 475L (1938)	Own S140	4-3⅞x4⅝	Al	Top	35–	2°B	½B	.....	.008	.012	Ch	J7	14mm	.025	.020	6°B	1¾B	85
650, 650L, 675, 675L, 1A4, 1C4, 1L5 (1938)	Own S209	6-3x4⅝	Al	Top	35–	TC	TC	.....	.008	.012	Ch	J6	14mm	.025	.020	2°B	1¼B	85

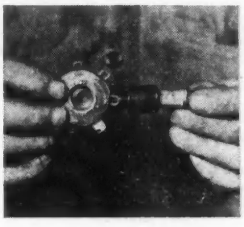
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1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING

ENGINE SERVICE *Specifications*

(CONTINUED)



•—Severe Service .018
Al—Aluminum
As—Strut Type Aluminum
Aa—Anodized Aluminum
CA—Cast Alloy
CI—Cast Iron
St—Alloy Steel
TP—Tin Plated Cast Iron
C—Cold
Bot—Bottom

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth °TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	OPERATING TAPPET CLEARANCE (Hot unless noted) Exhaust	SPARK PLUG Make	SPARK PLUG Type	SPARK PLUG Size	SPARK PLUG Gap	Breaker Point Gap	Spark Occurs °TC A-After B-Before	Spark Occurs Fly-Wheel Teeth °TC A-After B-Before	Comp. Pressure at Cranking Speed
REO—Continued																		
1A4H, 1C4H, 1B4, 1D4, 1BM7, 2BM7 (1938)	Own S22B	6-3⅛x4¼	Al	Top	40–	5°B			.008	.010	Ch	J6	14mm	.025	.020	8°B	3¾B	80
1B4H, 1D4H (1938)	Own S3L	6-3⅛x5	Al	Top	40–	TC	TC		.008	.010	Ch	J6	14mm	.025	.020	6°B	3⅛B	80
2B4, 2D4, 2J5, 2H5, 2L4, 2L7M (1938)	Own S3	6-3⅛x5	Al	Top	40–	3°B			.008	.010	Ch	J6	14mm	.025	.020	3°B	3⅛B	80
2L4H, 2L7MH, 3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5 (1938)	Own S5	6-3⅝x5	Al	Top	40–	TC	TC		.008	.010	Ch	J6	14mm	.025	.020	3°B	3B	
4H5, 4J5, 4K5, 3L6H (1938)	Bud K42B	6-4½x4¾	CI	Bot	30–	TC	TC		.006	.006	Ch	C7	18mm	.025	.020	10°B	IB	70
19 (1940)	Own GC22B	6-3⅝x4¼	Al	Bot	40–	5°B	2B	.012	.008	.010	Ch	H10	14mm	.032	.018	8°B	3B	105
20, 21 (1940); 19BHS, 19CHS, 20XS (1944)	Own GC245	6-3½x4¼	Al	Bot	40–	5°B	2B	.012	.008	.010	Ch	H10	14mm	.032	.018	9°B	3B	105
22 (1940) 21 (1942) 20BHS, 20XHS (1944)	Own GC28B	6-3½x5	Al	Bot	40–	5°B	2B	.012	.008	.010	Ch	H10	14mm	.032	.018	9°B	3½B	105
23 (1940) 22 (1942)	Own GC310	6-3⅝x5	Al	Top	40–	5°B	2B	.012	.008	.010	Ch	H10	14mm	.032	.018	9°B	3½B	105
4D19 (1941)	Bud 4DT226	4-3¾x5½	Al	Top	30-40	TC	TC	.009	.009	.012								380
6D19 (1941)	Bud 6DT294	6-3⅝x4¾	Al	Top	30-40	20°B		.009	.009	.012								600
D20 (1941)	Bud 6DT317	6-3⅝x5½	Al	Top	30-40	20°B		.009	.009	.012								
23H (1942)	Wauk6MKR	6-4½x4¾	Al	Top	35-1500	3°A	3A	.004	.010	.012	Ch	C7	18mm	.025	.020	TC	TC	90
25 (1942)	Wauk6MZR	6-4¼x4¾	Al	Top	35-1500	3°A	3A	.004	.010	.012	Ch	C7	18mm	.025	.020	TC	TC	90
27 (1942)	Wauk6SRKR	6-4⅝x5½	Al	Top	40-1500	3°A	3A	.004	.010	.012	Ch	C7	18mm	.025	.020	TC	TC	90
25VBS, 25VXS (1944)	Cow B6427	6-4⅛x4½	Al	Top	40-50			.022	.020C	.020C			18mm					120
27VXS (1944)	Cow R-22	6-4½x5¼	Al	Top	40-50			.014	.014C	.020C			13mm					100
STERLING																		
FB50 Del, FB60 Del, FB70 Del, FC90, FB70, FBT130	Wau 6BK	6-3¾x4¼	Al	Top	40-1500	TC	TC	.010	.010-.012	.014-.016	AC	86	18mm	.025				112
FB80, FD90	Wau 6MK	6-4¼x4¾	Al	Top	40-1500	3°A	3A	.004	.008-.010	.014-.016	AC	86	18mm	.025				80
FC100, FD97	Wau 6SRL	6-4¾x5⅛	Al	Top	40–	10°A	3A	.004	.006-.008	.016-.018	AC	78	⅛	.025				80
FDS180, FC135, FD115	Wau 6-125	6-4⅝x5½	CI	Top	40–	42°B	15B	.010	.010-.012	.018-.020	AC	85	18mm	.025				90
FBT152	Wau 6MZ	6-4¼x4¾	Al	Top	40–	3°A	3A	.004	.008-.010	.014-.016	AC	86	18mm	.025				80
FBT152	Wau 6-110	6-4x4¾	Al	Top	40–	15°B	5B	.010	.010-.012	.014-.016	AC	D8	18mm	.025				97
HC185, HC200, HC250, HC170, HCS210	Wau 6RB	6-5x5¾	CI	Top	40–	10°A	4A	.008	.006-.009	.010-.012	AC	76	⅞	.025				70
MB75, MD75, MS75, MD85, MB85	Wau 6BZ	6-4x4¼	Al	Top	40-1500	5°A	2A	.010	.010-.012	.014-.018	AC	86	18mm	.025				112
MB90, MD90	Wau 6MKR	6-4¼x4¾	Al	Top	40-1500	3°A	3A	.004	.008-.010	.014-.016	AC	86	18mm	.025				90
JB90, JD90, HD105, HC105, HBT126, HWS128, HDS128	Wau 6MZR	6-4¼x4¾	Al	Top	40-1500	5°A	3A	.004	.008-.010	.014-.016	AC	86	18mm	.025				90
HD110, HD115, HC115	Wau 6SRLR	6-4¾x5⅛	Al	Top	40-1500	3°A	3A	.004	.008-.010	.016-.018	AC	86	⅛	.025				90
JAD135, JD137, HD145, HD165, JC137, JC145, HC145, HC147, HC156, HC165, HC175, JDS160, JWS160, HWS235S, HDS235S, HCS225	Wau 6SRKR	6-4⅝x5½	Al	Top	40-1500	8°A	3A	.004	.008-.010	.016-.018	AC	76	⅛	.025				90
HC185, HC200, HC250, HC255, HCS285, HCS300	Wau 6RBR	6-5x5¾	Al	Top	40-1500	10°A	4A	.008	.006-.008	.010-.012	AC	76	⅛	.025				90
STEWART																		
40A (1938)	Con F4162	4-3 1/16x4⅜	CI	Top	40-2800			.010	.010	.014	Ch	7 COM	18mm	.025	.025	TC	TC	105
60A (1938)	Con F6170	6-3x4	CI	Top	40-2800	2°B	½B	.010	.010	.014	Ch	7 COM	18mm	.025	.025			
61A (1938)	Con F6218	6-3¼x4¾	CI	Top	40-2800	2°B	½B	.012	.012	.018	Ch	7 COM	18mm	.025	.025			97
45A, 45AS (1938)	Wau 6ZKA	6-3⅝x4½	CI	Top	40-2800	8°A	2A	.010	.010	.016	Ch	7 COM	18mm	.025	.025			111
47A, 50A, 50AS (1938)	Wau 6BM	6-3⅝x4¼	Al	Top	40-2800	TC	TC	.010	.010	.016	Ch	7 COM	18mm	.025	.025			111
49A (1938)	Wau 6BK	6-3¾x4¼	Al	Top	45-2800	TC	TC	.010	.010	.016	Ch	7 COM	18mm	.025	.025			112
51A (1938)	Con E602	6-4⅛x4¼	Al	Top	45-2800	TC	TC	.017	.017	.017	Ch	7 COM	18mm	.025	.025	TC	TC	102
58A (1938)	Wau 6MZ	6-4¼x4¾	Al	Top	40-2800	3°A	3A	.010	.012	.018	Ch	7 COM	18mm	.025	.025			90
38-6, 31X (1938)	Wau 6SRK	6-4⅝x5½	Al	Top	45-2200	10°A	3A	.010	.012	.018	Ch	2 COM	⅛	.025	.025			80
45GL (1938)	Wau 6BL	6-3½x4¼	CI	Top	40-2800	TC	TC	.010	.010	.016	Ch	7 COM	18mm	.025	.025			111
49A (1941-42)	Wau 6BZ	6-4x4¼	Al	Top	40-2800	TC	TC	.010	.010	.016	Ch	7 COM	18mm	.025	.025			112
58A, 59A (1941-42)	Wau 6MZR	6-4¼x4¾	Al	Top	40-2800	8°A	3A	.010	.012	.018	Ch	7 COM	18mm	.025	.025			90
38A (1941-42)	Wau 6SRKR	6-4⅝x5½	Al	Top	40-2800	10°A	3A	.010	.012	.018	Ch	7 COM	18mm	.025	.025			80
STUDEBAKER																		
12, T4, T6, T8	Own	6-3¼x4⅝	CI	Top	20 Min.	5°A	1½A	.010	.006	.010	Ch	7	18mm	.025	.020	1°B		70
2T2, 2M2, 2TB2 (1936)	Own	6-3¼x4⅝	CI	Top	20 Min.	5°B		.020	.016	.016	Ch	8	18mm	.025	D	2°B	IB	
2W6 2M6, 2MB6 (1936)	Wau 6BM	6-3⅝x4¼	Al	Top	20 Min.	TC	TC	.010	.012	.014	Ch	7	18mm	.025	D	TC	TC	
2W7 (1936)	Wau 6BK	6-3¾x4¼	Al	Top	20 Min.	TC	TC	.010	.012	.014	Ch	7	18mm	.025	D	TC	TC	
W8, 2W8 (1936)	Wau 6-110	6-4x4¾	Al	Top	20 Min.	15°B		.010	.012	.016	Ch	6M	18mm	.025	D	3°B	IB	80
J5 (1937)	Own	6-3¼x4⅝	Al	Top	40 Min.	5°B	1¾B	.020	.016C	.016C	Ch	8	18mm	.025	.020	2°B	¾B	101
J15, J15M, J15B (1937)	Own	6-3¼x4⅝	CI	Top	20 Min.	5°B	1¾B	.020	.016C	.016C	Ch	7B	18mm	.025	.020	2°B	¾B	101
J20, J20M, J20B (1937)	Her JXB	6-3⅝x4¼	Al	Top	35 Min.	2°A	⅝A	.010	.008	.010	Ch	2 COM	⅛	.025	.020	TC	TC	98
J25, J25M, J25B (1937)	Her JXD	6-4x4¼	Al	Top	35 Min.	5°A	1½A	.010	.006	.006	Ch	1 COM	⅛	.025	.020	TC	TC	95
K30, K30M, J30, J30M (1937-38)	Her WXC3	6-4¼x4½	Al	Top	35 Min.	2°A	¾A	.010	.006	.006	Ch	1 COM	⅛	.025	.020	TC	TC	90
K5 (1938)	Own T	6-3 1/16x4⅝	Al	Top	40 Min.	15°B	5½B	.020	.016C	.016C	Ch	8A	18mm	.025	D	2°B	¾B	95
K10 (1938-40)	Own OT	6-3 1/16x4⅝	Al	Top	40 Min.	21°B	IB	.020	.016C	.016C	Ch	8A	18mm	.025	D	2°B	¾B	95
K15, K15B, K15M (1938-40)	Own IT	6-3 1/16x4⅝	Al	Top	40 Min.	15°B	5½B	.020	.016C	.016C	Ch	8A	18mm	.025	D	2°B	¾B	95
K20, K20M, K20MB (1938-40)	Her HXB	6-3⅝x4¼	Al	Top	35 Min.	2°A	⅝A	.010	.006	.006	Ch	7	18mm	.025	D	TC	TC	95
K25, K25M, K25MB (1938-40)	Her JXD	6-4 4¼	Al	Top	35 Min.	5°A	1½A	.010	.006	.006	Ch	7	18mm	.025	D	TC	TC	95
M5 (1941-42)	Own	6-3x4	Al▲	Top	40 Min.	15°B		.020	.016	.016	Ch	J8B	14mm	.025	D	2°B		105
M15 (1941-42)	Own	6-3x4	Al▲	Top	40 Min.	15°B		.020	.016	.016	Ch	J8B	14mm	.025	D	2°B		105
M16 (1941-42)	Own	6-3 1/16x4⅝	Al▲	Top	40 Min.	15°B		.020	.016	.016	Ch	††	††	.025	D	2°B		105
WALTER																		
FND	Wau 6MK	6-4¼x4¾	CI	Top	40-1500	3°A	3A	.010	.010	.014	AC		14mm	.025	.020	25°A		
FMD	Wau 6SRL	6-4⅝x5⅛	Al	Top	50-1500	10°A	3A	.010	.010	.018	AC		⅞	.025	.020	25°A		
FKMD, FCKD, FCS	Wau 6SRK	6-4⅝x5¼	Al	Top	50-1500	10°A	3A	.010	.010	.018	AC		⅞	.025	.020	25•A		
FBS, FBRS	Wau 6RB	6-5x5¾	Al	Top	40-1500	10°A	4A	.010	.010	.015	AC		⅞	.025	.020	25°A		
FN (1940-42)	Wau 6MKR	6-4½x4¾	Al	Top	40-1500	3°A	3A	.004	.008-10	.014-16			18mm	.025	.018			90
FM (1940-42)	Wau 6SRLR	6-4⅝x5½	Al	Top	40-1500	8°A	3A	.004	.008-10	.014-16			⅞	.025	.018			90
FKM, FCK (1940-42)	Wau 6SRKR	6-4⅝x5½	Al	Top	40-1500	3°A	3A	.004	.008-10	.016-18			⅞	.025	.018			90
FB, FBR (1940-42)	Wau 6RBR	6-5x5¾	Al	Top	40-1500	10°A	4A	.008	.006-8	.010-12			⅞	.025	.018			90
FXB, FXR (1942)	Her HXE	6-5¾x6	Al	Top	35-1600	5°B	Var	.010	.010	.016	Ch	O	⅞	.025	.020	TC	TC	
WHITE																		
54, 54A, 58S, 59, 59A, 64, 640, 641, 642, 643	Own 1A	6-4⅜x5¾	Al	Top	40-2400	TC	TC	.032	.020	.025	AC	E	⅞	P	A	8°A	3A	
60, 601C, 601, 602, 61	Own 2A	6-3½x4½	Al	Top	40-2400	TC	TC	.015	.010	.012	AC	E	⅞	P	A	TC	TC	
65, 51AS, 58S, 59A, 620, 621, 63, 630, 631, 65K	Own 3A	6-4x5¼	Al	Top	40-2400	TC	TC	.032	.020	.025	AC	E	⅞	P	A	TC	TC	
61, 611, 612, 612K, 618, 618K	Own 4A	6-3¾x4½	Al	Top	40-2400	TC	TC	.015	.015	.015	AC	E	⅞	P	EE	TC	TC	
54, 640, 640K, 641, 641K, 642, 643, 691	Own 5A	6-4⅝x5¾	Al	Top	40-2500	TC	TC	.032	.020	.025	AC	D	18mm	P	EE	TC	TC	
65, 620, 620K, 621, 621K, 630, 630K, 631, 631K	Own 7A	6-4 1/16x5¼	Al	Top	40-2100	TC	TC	.032	.020	.025	A@	E	⅞	P	EE	TC	TC	
701, 702, 707	Own 8A	6-3 1/16x4⅝	Tp	Top	35 Max.	5°A	1½A	.010	.010	.016	AC	W	18mm	S	EE	5°B	1½B	
712, 718	Own 9A	6-3 1/16x4½	Tp	Top	40-2400	10°B		.010	.010	.012	AC	K	14mm	P	A	6°B	2B	

ABBREVIATIONS

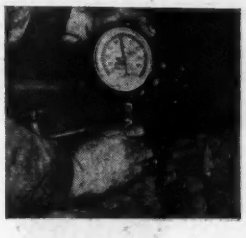
Top—Top
AC—AC
AL—Auto-Life
Ch—Champion
†—46 for AF240, AFP240, CCV100
*—Iron Alloy for 1942 models
††—Commercial 8AB, 18mm. plugs for 1941 models; J9, 14mm for 1942 models
Q—Qts.

Bud—Buda
Con—Continental
Her—Hercules
Opt—Optional
Var—Variable
Wau—Waukesha
A—.019-.023
(1)—Timing is for 130HS, 130HL, 140HS, 140HK, 145HS, 145HK; other models spark is variable

Cat—Caterpillar
Cum—Cummins
Lyc—Lycoming

*—.006 Hot
(A)—30-40
S—.023-.028
B—If spark plug is J9 (14mm), breaker point gap is .018-.022
Z—.018-.022
ZZ—.025-.030
V—.012-.014
Y—.011-.012C
YY—.014-.016
SS—Semi-Steel
COM—Commercial

H—.015-.025
D—.018-.024
E—.018-.020
EE—.016-.018
K—.020-.025
M—5°B for CC450, 3°B for CF450
N—Varies with compression ratio
P—.018-.023
R—.028-.032
T—.025-.028
HH—.013-.015C



TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	Exhaust	SPARK PLUG Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
730, 731	Own 10AB	12-3⅝x3¾	Tp	Top	40-2400	10°B	4B	.010	.010	.012	AC	K	14mm	P	A	3°B	3B	....
702, 704, 704K, 709, 705, 805, 809	Own 11A	6-3⅛x4½	Tp	Top	40-2600	10°B	3½B	.010	.012	.016	AC	K	14mm	P	D	7°B	4B	....
686	Own 12A	12-3⅛x3¾	Tp	Top	40-2400	10°B	3½B	.010	.010	.012	AC	K	14mm	P	A	8°B	2½B	....
730, 731	Own 12AB	12-3⅛x3¾	Tp	Top	40-2400	10°B	4B	.010	.010	.016	AC	K	14mm	P	A	3°B	3B	....
704K2, 712SL, 706, 710, 810 (1936-37)	Own 13A	6-3⅛x4½	Tp	Top	40-2400	7°B	3½B	.010	.012	.020	AC	K	14mm	P	A	12°B	4B	....
720, 720T (1936)	Own 14A	6-4x5¼	Al	Top	40-2400	TC	TC	.032	.020	.025	AC	E	⅛	P	A	TC	TC	....
722 (1936)	Own 15A	6-4⅛x5¼	Al	Top	40-2200	TC	TC	.032	.010	.025	AC	E	⅛	P	A	TC	TC	....
700, 700K (1937)	Own 21A	6-3⅛x4½	Tp	Top	40-2600	10°B	3½B	.010	.010	.012	AC	K	14mm	.025	A	12°B	4B	....
712NS, 718NS, 708M, 812, 818 (1937)	Own 16A	6-3⅛x4½	Tp	Top	40-2400	7°B	3½B	.010	.012	.020	AC	K	14mm	.025	A	12°B	4B	....
820, 720	Own 18A	6-4⅛x5¼	Al	Top	40 Max.	TC	TC	....	.020	.025	AC	E6	14mm	.025	.018	TC	TC	....
750, 750T, 850	Own 20A	6-3⅞x5⅛	Al	Top	35 Max.	15°B	....	....	0	0	Ch	J10	14mm	.025	.021	7°B	....	....
784, 786, 788, 788	Own 24A	12-4⅛x4½	Al	Top	40 Max.	10°B	....	....	0	0	Ch	J10	14mm	.025	.015	3°B	....	....
722, 822	Own 25A	6-4⅝x5¼	Al	Top	40 Max.	TC	TC	....	.020	.025	AC	44	14mm	.025	.018	TC	TC	....
709, 710, 718, 810, 818	Own 30A	6-3⅞x4½	Al	Top	35 Max.	15°B	....	....	0	0	Ch	J10	14mm	.025	.018	1½B	....	....
706, 706M, 708, 710, 718, 810, 818 (1940)	Own 30A	6-3⅞x4½	Al	Top	35 Max.	15°B	....	....	0	0	Ch	J10	14mm	.025	.018	1½B	....	....
White Horse (1940)	Own 32A	4-3⅝x3⅝	CI	Bot	40 Max.	....	....	....	0	0	Ch	J5	14mm	.031	.020	12°B	....	....
804, 1012, 510 (1940)	Own 29A	6-3⅝x4¼	Al	Top	25 Max.	2°B	....	.010	.006	.006	Ch	J8	14mm	.030	.020	TC	TC	....
1012 (1940)	Own 33A	6-4x4¼	Al	Top	25 Max.	2°B	....	.010	.006*	.006*	Ch	J8	14mm	.030	.020	TC	TC	....
WA14, WA114	Own 100A	6-3⅛x4½	Al	Top	35 Max.	15°B	....	0	0	0	Ch	JC10	14mm	.025	.018	7°B	....	....
WA18, WA118	Own 110A	6-3⅛x4½	Al	Top	35 Max.	15°B	....	0	0	0	Ch	JC10	14mm	.025	.018	7°B	....	....
WA20, W120, WA2064, WA16	Own 120A	6-3⅞x4½	Al	Top	35 Max.	15°B	....	0	0	0	Ch	JC10	14mm	.025	.018	7°B	....	....
WA22, WA26, WA34, WA122, WA126, WA134, WA2264	Own 140A	6-3⅞x5⅛	Al	Top	35 Max.	15°B	....	0	0	0	Ch	JC10	14mm	.025	.018	7°B	....	....
White Horse (1941)	Own 35A	4-3⅝x3½	CI	Bot	40-2000	....	....	....	0	0	Ch	J8	14mm	.030	.020	11°B	....	....
782	Own 140TA	6-3⅞x5⅛	Al	Top	35 Max.	15°B	....	0	0	0	Ch	JC10	14mm	.025	.018	7°B	....	....
WILLYS																		
38, 48, 440P	Own	4-3⅛x4⅜	CA	Top	30-30	TC	TC	.010	.004	.006	Ch	C7	18mm	.025	.020	5°A	1½A	87
440	Own	4-3⅛x4⅜	Al	Top	75-30	3°B	2½B	.020	.014	.014	Ch	J8	18mm	.030	.020	TC	TC	107
441, 441P	Own	4-3⅛x4⅜	Al	Top	75-30	3°B	2½B	.020	.014	.014	Ch	J9	18mm	.030	.020	TC	TC	107
442, 442P	Own	4-3⅛x4⅜	TP	Top	75-30	3°B	2½B	.020	.014	.014	Ch	J9	18mm	.030	.020	TC	TC	111

ENGINES

BUDA

	HP205	4-3⅛x4½	CI	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	87
	HP217	4-3⅛x4¾	CI	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	94
	HP234	4⅛x5½	CI	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	110
	HP260	6-3¼x4½	CI	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	87
	HP298	6-3⅜x4½	CI	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	87
	HP326	6-3⅛x4¾	Al	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	103
	HP351	6-3⅛x5½	Al	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	103
	K369	6-4⅛x4¾	SS	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	87
	K393	6-4⅛x4¾	CI	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	99
	K428	6-4⅜x4¾	Al	Top	40-1400	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	102
	L525	6-4½x5½	CI	Top	40-1600	TC	TC	.006	.006	.009	AC	87	18mm	.025	.018	....	....	87
	LO525	6-4½x5½	Al	Top	40-1600	10°B	....	.009	.009	.018	AC	K7	18mm	.025	.018	....	....	93
	MF638	6-4¾x6	CI	Top	35-1400	5°B	....	.010	.010	.016	AC	87	18mm	.025	.018	....	....	87
	MI766	6-5x6½	Al	Top	35-1200	10°B	....	.015	.010	.016	AC	87	18mm	.025	.018	....	....	93
	MDT212	4-3⅝x5½	Al	Top	40-1600	20°B	....	.009	.009	.012	....	Diesel	....	....	....	....	....	398
	MDT226	4-3¾x5½	Al	Top	40-1600	TC	TC	.009	.009	.012	....	Diesel	....	....	....	....	....	390
	MDT278	6-3⅝x4½	Al	Top	40-1600	20°B	....	.009	.009	.012	....	Diesel	....	....	....	....	....	....
	MDT294	6-3⅝x4¾	Al	Top	40-1600	20°B	....	.009	.009	.012	....	Diesel	....	....	....	....	....	....
	MDT317	6-3⅝x5½	Al	Top	40-1600	12°B	....	.009	.009	.012	....	Diesel	....	....	....	....	....	....
	MDT389	6-3⅞x5½	Al	Top	35-1600	12°B	....	.009	.009	.012	....	Diesel	....	....	....	....	....	....
	MDT468	6-4¼x5½	Al	Top	35-1600	12°B	....	.009	.009	.012	....	Diesel	....	....	....	....	....	....
	MDH691	6-4¾x6½	Al	Top	35-1600	15°B	....	.015	.009	.012	....	Diesel	....	....	....	....	....	....
	MO993	6-5⅝x6	CI	Top	30-1200	10°B	....	.010	.015	.015	Ch	J10	14mm	.027	.018	....	....	105
	MDC344	6-5¼x6	Al	Top	30-1200	20°B	....	.010	.015	.015	....	....	....	....	....	....	....	390

CONTINENTAL

	C400	4-3⅜x4	Tp	Top	35 Max.	....	....	.012	.010C	.010C	....	....	18mm	....	....	....	....	82
	F6170	6-3x4	Tp	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	126
	F6199	6-3¼x4	Tp	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	126
	F6209	6-3⅛x4⅜	Tp	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	123
	F6218	6-3¼x4⅜	Tp	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	122
	A6244	6-3⅞x4⅜	Al	Top	45-55	....	....	.014	.022C	.022C	....	....	18mm	....	....	....	....	125
	20C	6-3⅝x4⅜	Al	Top	35 Max.	....	....	.012	.008	.010	....	....	⅞	....	....	....	....	108
	E600	6-3⅛x4½	Tp	Top	40-50	....	....	.018	.018C	.022C	....	....	18mm	....	....	....	....	100
	E601	6-3⅞x4½	Tp	Top	40-50	....	....	.018	.018C	.022C	....	....	18mm	....	....	....	....	100
	E602	6-4⅛x4½	Tp	Top	40-50	....	....	.018	.018C	.022C	....	....	18mm	....	....	....	....	100
	E603	6-4¼x4½	Tp	Top	40-50	....	....	.018	.018C	.022C	....	....	18mm	....	....	....	....	100
	20R	6-4⅛x4¾	Al	Top	40-50	....	....	.014	.014C	.020C	....	....	18mm	....	....	....	....	100
	21R	6-4⅜x4¾	Al	Top	40-50	....	....	.014	.014C	.020C	....	....	18mm	....	....	....	....	100
	22R	6-4½x5¼	Al	Top	40-50	....	....	.014	.014C	.020C	....	....	18mm	....	....	....	....	100
	Y4069	4-2½x3⅛	CI	Top	30-40	....	....	.012	.012C	.012C	....	....	18mm	....	....	....	....	102
	Y4091	4-2⅞x3½	CI	Top	30-40	....	....	.012	.012C	.012C	....	....	18mm	....	....	....	....	109
	F4112	4-3⅜x3¼	Al	Top	30-40	....	....	.012	.012C	.012C	....	....	18mm	....	....	....	....	122
	F4124	4-3x4⅜	Tp	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	118
	F4140	4-3⅛x4⅜	Tp	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	120
	F4162	4-3⅛x4⅜	Tp	Top	35-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	121
	F6226	6-2⅞x4⅜	Al	Top	30-40	....	....	.014	.014C	.014C	....	....	18mm	....	....	....	....	123
	M6271	6-3⅝x4⅜	Tp	Top	40-50	....	....	.0175	.017C	.022C	....	....	18mm	....	....	....	....	106
	M6290	6-3⅝x4⅜	Tp	Top	40-50	....	....	.0175	.017C	.022C	....	....	18mm	....	....	....	....	107
	M6330	6-4x4⅜	Tp	Top	40-50	....	....	.0175	.017C	.022C	....	....	18mm	....	....	....	....	108
	M6253	6-3½x4⅜	Tp	Top	40-50	....	....	.0175	.017C	.022C	....	....	18mm	....	....	....	....	106
	R6513	6-4½x5⅝	Al	Top	50-60	....	....	.0245	.020C	.020C	....	....	18mm	....	....	....	....	120
	R6572	6-4¾x5⅝	Al	Top	50-60	....	....	.0245	.020C	.020C	....	....	18mm	....	....	....	....	120
	R6602	6-4⅞x5⅝	Al	Top	50-60	....	....	.0245	.020C	.020C	....	....	18mm	....	....	....	....	120

CONTINUED ON PAGE 52

ENGINE SERVICE SPECIFICATIONS

(CONTINUED)

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC A-After B-Before	Spark Occurs Fly-Wheel Teeth °TC A-After B-Before	Compr. Pressure at Cranking Speed
						°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
CONTINENTAL—Continued																		
	B6371	6-4½x4⅝	Al	Top	40–50	....	....	.022	.017C	.025C	....	....	18mm	....	....	....	....	....
	B6405	6-4⅝x4⅝	Al	Top	40–50	....	....	.022	.017C	.025C	....	....	18mm	....	....	....	....	....
	B6427	6-4⅞x4⅞	Al	Top	40–50	....	....	.022	.020C	.020C	....	....	18mm	....	....	....	....	....
CUMMINS																		
	H, HS	4-7/6x6	CI	Top	(A)–1800	5°B	....	....	.014	.022	....	Die	sel	....	....	....	....	....
	H, HS	6-4⅞x6	CI	Top	(A)–1800	5°B	....	....	.014	.022	....	Die	sel	....	....	....	....	....
	A	6-4x5	CI	Top	....	....	....	....	.015H	.025H	....	Die	sel	....	....	....	....	....
HERCULES																		
	ZXA	4-2½x3	CI	Top	15–1000	5°A	Var	.006	.006	.008	....	....	14mm	.025	.020	N	N	....
	ZXB	4-2⅝x3	CI	Top	15–1000	5°A	Var	.006	.006	.006	....	....	14mm	.025	.020	N	N	....
	IX	4-2½x4	CI	Top	15–1000	5°A	Var	.006	.006	.008	....	....	18mm	.025	.020	N	N	....
	IXF	4-2¾x4	CI	Top	15–1000	5°A	Var	.006	.006	.008	....	....	⅛	.025	.020	N	N	....
	IXA	4-3x4	Var	Top	15–1000	5°A	Var	.006	.006	.008	....	....	⅛	.025	.020	N	N	....
	IXK	4-3½x4	CI	Top	15–1000	5°A	Var	.006	.006	.008	....	....	⅛	.025	.020	N	N	....
	IXB	4-3½x4	Var	Top	15–1000	5°A	Var	.006	.006	.008	....	....	⅛	.025	.020	N	N	....
	OOA	4-3⅝x4½	Var	Top	15–1000	5°A	Var	.010	.008	.012	....	....	⅛	.025	.020	N	N	....
	OOB	4-3¾x4½	Var	Top	15–1000	5°A	Var	.010	.008	.012	....	....	⅛	.025	.020	N	N	....
	OOC	4-4x4½	Var	Top	15–1000	5°A	Var	.010	.008	.012	....	....	⅛	.025	.020	N	N	....
	QXA	6-3½x4⅛	Var	Top	26–1600	5°B	Var	.010	.006	.006	....	....	⅛	.025	.020	N	N	....
	QXB	6-3½x4⅛	Var	Top	26–1600	5°B	Var	.010	.006	.006	....	....	⅛	.025	.020	N	N	....
	QXC	6-3⅝x4⅛	Var	Top	26–1600	5°B	Var	.010	.006	.006	....	....	⅛	.025	.020	N	N	....
	QXD	6-3¾x4⅛	Al	Top	26–1600	5°B	Var	.010	.006	.006	....	....	⅛	.025	.020	N	N	....
	JXA	6-3⅝x4¼	Var	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	JXF	6-3¾x4¼	Al	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	JXG	6-3½x4¼	Al	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	JXE3	6-3½x4¼	Al	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	JXB	6-3⅝x4¼	Var	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	JXC	6-3¾x4¼	Var	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	JXD	6-4x4¼	Var	Top	26–1600	5°A	Var	.010	.008	.010	....	....	⅛	.025	.020	N	N	....
	WXC	6-4x4½	Var	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	WXC2	6-4⅛x4½	Var	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	WXC3	6-4¼x4½	Var	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	WXLC	6-4x4¾	Al	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	WXLC3	6-4¼x4¾	Al	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	YXC	6-4 x4¾	Var	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	YXC2	6-4⅛x4¾	Var	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	YXC3	6-4⅜x4¾	Var	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	RXB	6-4½x5¼	Al	Top	26–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	RXC	6-4⅝x5¼	Al	Top	36–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	RXLC	6-4⅝x5¼	Var	Top	36–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	RXLD	6-4¾x5¼	Var	Top	36–1600	2°A	Var	.010	.006	.010	....	....	⅛	.025	.020	N	N	....
	HXB	6-5x6	Al	Top	35–1600	5°B	Var	.015	.010	.016	....	....	⅛	.025	.020	N	N	....
	HXC	6-5¼x6	Al	Top	35–1600	5°B	Var	.015	.010	.016	....	....	⅛	.025	.020	N	N	....
	HXD	6-5½x6	Al	Top	35–1600	5°B	Var	.015	.010	.016	....	....	⅛	.025	.020	N	N	....
	HXE	6-5¾x6	Var	Top	35–1600	5°B	Var	.015	.010	.016	....	....	⅛	.025	.020	N	N	....
	DOOB	4-3¾x4½	Al	Top	30–1200	12°B	Var	.010	.010	.010	....	Die	sel	....	....	....	....	....
	DOOC	4-4x4½	Al	Top	30–1200	12°B	Var	.010	.010	.010	....	Die	sel	....	....	....	....	....
	DOOD	4-4¼x4½	Al	Top	30–1200	12°B	Var	.010	.010	.010	....	Die	sel	....	....	....	....	....
	DJXB	6-3½x4½	Al	Top	45–2000	12°B	Var	.010	.010	.010	....	Die	sel	....	....	....	....	....
	DJXC	6-3¾x4½	Al	Top	45–2000	12°B	Var	.010	.010	.010	....	Die	sel	....	....	....	....	....
	DRXB	6-4½x5¼	Al	Top	30–1200	12°B	Var	.016	.010	.016	....	Die	sel	....	....	....	....	....
	DRXC	6-4⅝x5¼	Al	Top	30–1200	12°B	Var	.016	.010	.016	....	Die	sel	....	....	....	....	....
	DHXB	6-5x6	Al	Top	30–1200	5°B	Var	.015	.010	.016	....	Die	sel	....	....	....	....	....
	DFXB	6-5x6	Al	Top	40–1200	5°B	Var	.015	.010	.016	....	Die	sel	....	....	....	....	....
	DHXC	6-5½x6	Al	Top	30–1200	5°B	Var	.015	.010	.016	....	Die	sel	....	....	....	....	....
	DFXC	6-5¼x6	Al	Top	40–1200	5°B	Var	.015	.010	.016	....	Die	sel	....	....	....	....	....
	DFXD	6-5½x6	Al	Top	40–1200	5°B	Var	.015	.010	.016	....	Die	sel	....	....	....	....	....
	DFXE	6-5⅝x6	Al	Top	40–1200	5°B	Var	.015	.010	.016	....	Die	sel	....	....	....	....	....
WAUKESHA																		
	6BK	6-3¾x4¼	Al	Top	40–1500	5°A	1½A	.010	.010-12C	.014-16C	Opt	....	18mm	.025	.018	Var	....	115
	6MS	6-3¾x4¾	CI	Top	40–1500	8°A	....	.004	.008-12C	.012-14C	Opt	....	18mm	.025	.018	Var	....	....
	6ML	6-4x4¾	CI	Top	40–1500	8°A	3A	.004	.008-10C	.014-16C	Opt	....	18mm	.025	.018	Var	....	....
	6MK	6-4¼x4¾	CI	Top	40–1500	8°A	3A	.004	.008-10C	.014-16C	Opt	....	18mm	.025	.018	Var	....	....
	6MZ	6-4¼x4¾	CI	Top	40–1500	8°A	3A	.004	.008-10C	.014-16C	Opt	....	18mm	.025	.018	Var	....	....
	6SRL	6-4⅝x5¼	CI	Top	40–1500	10°A	3A	.004	.008-10C	.016-18C	Opt	....	⅛	.025	.018	Var	....	....
	6SRK	6-4⅝x5¼	Var	Top	40–1500	10°A	3A	.004	.008-10C	.016-18C	Opt	....	⅛	.025	.019	Var	....	....
	6AB	6-4½x5¾	CI	Top	40–1500	10°A	....	.008	.004-06C	.008-10C	Opt	....	⅛	.025	.018	Var	....	....
	6RB	6-5x5¾	Al	Top	40–1500	10°A	4A	.008	.008-08C	.010-12C	Opt	....	⅛	.025	.018	Var	....	....
	6BL	6-3½x4¼	Al	Top	40–1500	5°A	1½A	.010	.010-12C	.014-16C	Opt	....	18mm	.025	.018	Var	....	....
	6-90	6-3¾x4¾	Al	Top	40–1500	5°B	....	.010	.010-12C	.014-16C	Opt	....	....	.025	.018	Var	....	....
	6-110	6-4x4¾	Al	Top	40–1500	15°B	5B	.009	.010-12C	.014-16C	Opt	....	18mm	.025	.018	Var	....	....
	6-125	6-4⅜x5½	Al	Top	40–1500	42°B	15B	.008	.010-12C	.018-20C	Opt	....	18mm	.025	.018	Var	....	....
	6SRS	6-4½x5½	CI	Top	40–1500	10°A	....	.004	.008-10C	.016-18C	Opt	....	⅛	.025	.018	Var	....	115
	6BA	6-3¾x4¼	CI	Top	40–1500	TC	TC	.010	.010-12C	.012-14C	Opt	....	18mm	.025	.018	Var	....	115
	6BM	6-3¾x4¼	Al	Top	40–1500	5°A	1½A	.010	.010-12C	.014-16C	Opt	....	18mm	.025	.018	Var	....	115
	6ZKA	6-3⅞x4⅛	CI	Top	40–1500	8°A	2A	.004	.008-10C	.012-14C	Opt	....	18mm	.025	.018	Var	....	115
	6GAL	6-5x5½	CI	Top	40–1500	TC	TC	.008	.015-17C	.024-26C	Opt	....	18mm	.025	.018	Var	....	115
	6GAK	6-5½x5½	CI	Top	40–1500	TC	TC	.008	.015-17C	.024-26C	Opt	....	18mm	.025	.018	Var	....	115
	6BKH	6-3¾x4¼	Al	Top	40–1500	5°A	2A	.008	.010-12C	.018-20C	Opt	....	18mm	.025	.018	12°B	....	115
	6BZ	6-4x4¼	Al	Top	40–1500	5°A	1½A	.010	.010-12C	.014-16C	Opt	....	18mm	.025	.010	Var	....	115
	6WAL	6-5⅜x6¼	Al	Top	40–1500	TC	TC	.012	.018-20C	.025-27C	Opt	....	18mm	.025	.018	Var	....	125
	6WAK	6-6¼x6¼	Al	Top	40–1500	TC	TC	.012	.018-20C	.025-27C	Opt	....	18mm	.025	.018	Var	....	125
	6WALH	6-5⅜x6½	Al	Top	40–1500	TC	TC	.012	.018-20C	.025-27C	Opt	....	18mm	.025	.018	17°	....	125
	6WAKH	6-6¼x6½	Al	Top	40–1500	TC	TC	.012	.018-20C	.025-27C	Opt	....	18mm	.025	.018	17°	....	125
	6MKR	6-4¼x4¾	Al	Top	40–1500	8°A	3A	.004	.008-010	.014-016	Opt	....	18mm	.025	.018	Var	....	....
	6MZR	6-4¼x4¾	Al	Top	40–1500	8°A	3A	.004	.008-010	.014-016	Opt	....	18mm	.025	.018	Var	....	....
	6SRLR	6-4½x5¼	Al	Top	40–1500	8°A	3A	.004	.008-010	.014-016	Opt	....	⅛	.025	.018	Var	....	....
	6SRKR	6-4⅝x5¼	Al	Top	40–1500	8°A	3A	.004	.008-010	.014-016	Opt	....	⅛	.025	.018	Var	....	....
	6RBR	6-5x5¾	Al	Top	40–1500	10°A	4A	.008	.006-008	.010-012	Opt	....	18mm	.025	.018	Var	....	135
	130HS, 130GS	4-3½x5	CI	Top	40–1500	10°A	3A	.012	.009-11C	.014-16C	Opt	....	18mm	.025	.018	16°B(1	....	135
	130HL, 130GL	4-4x5	CI	Top	40–1500	10°A	3A	.012	.009-11C	.014-16C	Opt	....	18mm	.025	.018	16°B(1	....	135
	140HS, 140GS	6-4¼x5½	Al	Top	40–1500	5°A	1¾A	.010	.010-12C	.016-18C	Opt	....	18mm	.025	.018	16°B(1	....	135
	140HK,140GK	6-4½x5½	Al	Top	40–1500	5°A	1¾A	.010	.010-12C	.016-18C	Opt	....	18mm	.025	.018	16°B(1	....	135
	145HS, 145GS	6-4¾x6	Al	Top	40–1500	5°A	2A	.006	.009-11C	.024-26C	Opt	....	18mm	.025	.018	16°B(1	....	135
	145HK,145GK	6-5¼x6	Al	Top	40–1500	5°A	2A	.006	.009-11C	.024-26C	Opt	....	18mm	.025	.018	16°B(1	....	135
	14SGZ	6-5⅜x6	Al	Top	40–1500	5°A	2A	.006	.009-11C	.024-26C	Opt	....	18mm	.025	.018	Var	....	135

RECOMMENDED WEAR LIMITS



Bearing Tolerances and Oil Clearances

Strict adherence to recommended bearing tolerances and oil clearances will do much to prolong the life of critical materials used in connecting rod, main and camshaft bearings. Federal-Mogul Corp. gives the following service recommendations for prolonged bearing life.

TOLERANCES

CRANKSHAFT—A shaft worn to the extent that the bearing surfaces are ridged and scored, is unfit for use and must be reground.

Journals: Should not be more than .003 in. out of alignment.

Crankpins: Should not be more than .002 in. out-of-round. If main journals or crankpins exceed these tolerances, the shaft is unfit for further use and must be reground.

CRANKCASE—Bearing Saddle Bores: Must be round within .002 in. and in true alignment lengthwise for use with precision insert main bearings.

MAIN BEARINGS—Spread (width across the open ends) should exceed the crankcase bore diameter by .005 in. to .020 in., depending on the thickness and structural stiffness of the bearing.

CONNECTING RODS—Crankpin bearing bore and the piston pin bushing bore must be parallel with each other within .001 in. in 6 in., and the twist between these bores must not exceed .001 in. in 6 in.

Rod Bore: Must be round within .002 in.

Rod Bearings: Spread (width across the open ends) should exceed the rod bore diameter by .005 in. to .020 in., depending on the thickness and structural stiffness of the bearings. The Ford V8 rod bearings are exceptions to this rule.

Ford Rod Bearings: It is preferable that bearings be truly round and smaller at every point in the circumference than the rod bore. The correct distance across the open ends of the various Ford bearings are as follows:

1937-39 Model 60—1.797 in. desired to 1.787 in.
1940 Model 60—1.898 in. desired to 1.888 in.
1936-38 Model 85—2.217 in. desired to 2.207 in.
1939-42 Model 91—2.217 in. desired to 2.207 in.
1939-42 Mercury—2.357 in. desired to 2.437 in.

CAMSHAFT BEARINGS—After an engine has used up two sets of main and connecting rod bearings, the camshaft bearings are a potential source of trouble due to wear and should be replaced.

OIL CLEARANCES

CONNECTING RODS—End clearances of bearings are recommended as follows:

Diameter of Crankshaft Journal	Clearance
2 to 2¾ in.	.004/.006 in.
2 13/16 to 3½ in.	.006/.008 in.
Over 3½ in.	.008/.010 in.

CRANKSHAFT—End clearances at the thrust bearings should be the same as given for connecting rod end clearances.

MAIN and CONNECTING ROD BEARINGS: Oil clearances for pressure (force feed) lubrication are recommended as follows:

CLEARANCES

Dia. of Crankshaft Journal or Crankpin	Tin Base Babbitt or Bermax High Lead Babbitt	Genuine Cadmium Silver Copper	Federaloy B-50 Copper Lead
2 to 2¾	.0015	.0020	.0025
2 13/16 to 3½	.0025	.0030	.0035
3 9/16 to 4	.0030	.0035	.0040

Note A: A tolerance of Plus .001 in. is allowable on the clearances specified.
Note B: Oil clearance as shown in this chart is the difference in the diameter of the crankshaft journal or crankpin and the bore diameter of the bearing.

Timken Axles & Brakes

With replacement parts on the critical list, a question confronting every maintenance department is: "When is a part worn beyond further usefulness?" Regarding front and rear axle parts and brake parts, Timken-Detroit Axle Co. gives the following recommendations on maximum wear limits. It advises close study of the limits given and adoption if they check with operating experience.

FRONT AND REAR AXLES

Bevel drive pinion thrust bearings	.005 loose
Rear wheel bearings (full floating)	.012 loose
Wormshaft thrust bearings	.006 loose
Front wheel bearings	.008 loose
Front axle steering ball	1/16 in. max. wear in diameter
Front axle steering knuckle pins	.003 undersize
Front axle steering knuckle pin bushings	.003 oversize
Trailer axle wheel bearings	.012 loose

BRAKES

Brake camshaft bushings (babbitt or bronze)	.025 loose
Brake drums (Permissible amount of material to be removed by grinding or wear):	
Light types with thin linings	1/16 in. on a side
Heavy types with thick linings	3/32 in. on a side

Service Brakes

The following working limits for better brake operation and care of Lockheed, Huck, Bendix and two-shoe cam-operated brakes, are the recommendations of J. Donald Roach, Sales Engineer, U. S. Asbestos Div., Raybestos-Manhattan, Inc.

BRAKE DRUMS—Do not cut drum wall more than 1/32 in. on cars and light trucks; more than 1/16 in. on heavy trucks and busses. Drums should be discarded if deflection in diameter is more than .060 in. under full brake application. These peace-time recommendations are subject to a wartime qualification. Drums are being turned for the use of 3/16 in. oversize blocks and it is considered better to turn the drums than to install 3/16 in. oversize blocks with rough surfaces.

Diameter should be concentric with hub within .010 in.

Surface: Refinish if worn or scored more than .010 in. or if heat checked.

Taper: Refinish if tapered or bell-mouth more than .010 in.

BRAKE SHOES—Cam Ends: Bendix shoes should be repaired (or discarded if this is not possible), if the cam end is worn or bent and if the anchor pin eye is worn at the small radius.

Rollers: Discard rollers that are worn, particularly if a flat spot is present on outside. Discard roller plates if grooved by the cam more than .015 in.

BUSHINGS—Anchor bushings should be replaced if worn more than .008 in. Anchors should be fitted and bushings accurately reamed.

ANCHORS—Pins: Anchor pin on the Huck brake is non-adjustable type, renew anchor if worn more than .008 in.

On the two-shoe cam operated brake and the Lockheed brake, renew anchor pins or rebush shoes if worn more than .008 in.

LINKS—Articulating links must be rigid and hold the shoes without side play. Examine springs and buttons and renew springs if weak. Applies to all Huck brakes.

CAM—On the two-shoe cam operated brake, camshaft should be renewed and bracket rebushed if worn more than .025 in.

SHOE TIPS & ROLLERS—On the two-shoe cam operated brake, shoe tips or rollers should be replaced if worn.

SPRINGS—All springs should be renewed if weak.

HYDRAULIC SYSTEMS—Wheel Cylinders: Dismantle and examine at each reline or if leaks are present. Renew pistons if scored, sticking, or worn more than .005 in. Replace cylinders if scored or if "no-go gage" will enter. Renew all rubber cups.

MASTER CYLINDERS—Check Valve: Pre-loading of lines should be 7½ to 12 lb. per sq. in. line pressure. Renew check valve if either of the seats are worn or misshapen or if small spring is weak or rusty.

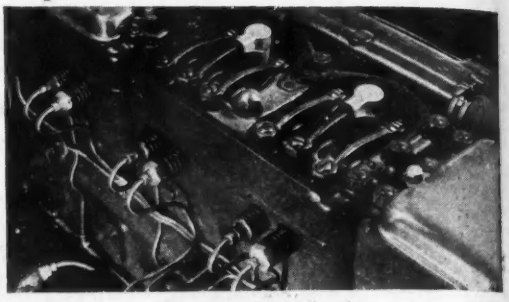
Primary & Secondary Cups: Renew cups if distorted or if edges are rounded.

Main Spring: Renew spring if weak.

Piston: Renew if scored or worn more than .005 in. Make certain by-pass holes are open. Cylinder walls should be honed if scored. Use a "no-go gage" for measurement of cylinder diameter. If, after honing enough to remove all scores, the "no-go gage" will enter, master cylinder should be replaced.

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BACK THE ATTACK
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DIESEL DATA

FUEL SPECIFICATIONS • • AND ENGINE SPECIFICATIONS

If the fleet operator having diesel trucks is concerned about the quality of fuels obtainable, he will find in the table at right the latest specifications of all fuels from the refiners' laboratories. On this page, the diesel maintenance man will find the basic engine specifications such as horsepower rating, compression ratio, torque, valve diameter and lift, etc., as well as the engine manufacturers' recommendation for the minimum cetane number of the fuel.

DIESEL ENGINE SPECIFICATIONS

DIESEL ENGINE MAKE AND MODEL	Type	Number of Cylinders Bore and Stroke (In.)	Cycle	Piston Displacement (Cu. In.)	HORSEPOWER			Compression Ratio - to 1	Max. Combustion Pressure (Lb. per Sq. In.)	B.M.E.P. at Continuous Hp. (Lbs. per Sq. In.)	Weight per Continuous Hp. (Lb.)	TORQUE	Shipping Weight (Lb.)	VALVES			Pressure—Nozzle Opening (Lb. per Sq. In.)	Minimum Recommended Cetane Number of Fuel	Starting Method
					With Bare Engine	With Standard Accessories													
					Maximum Brake Hp. at Specified R.P.M.	Max. Intermittent Hp. at Specified R.P.M.	Continuous Sustained Hp. at Specified R.P.M.					Max. Torque in Lb. Ft. at Specified R.P.M.		Arrangement	Intake Port Diameter and Lift (In.)	Exhaust Port Diameter and Lift (In.)			
BUDA																			
6-DT-317	AC	6-3⅝x5½	4	317	90-2300	75-2300	52.5-1800	14.50	725	73	21.6	185.4-1500	1133	VI	1.37- .486	1.18- .486	2000	46	Ele
6-DT-389	AC	6-3⅞x5½	4	389	96-2100	74.5-2100	57-1600	14.20	725	73	24.5	222.5-1100	1400	VI	1.44- .476	1.31- .476	2000	46	Ele
CUMMINS																			
A	DI	6-4x5	4	377	100-2200*	85-2200*	57-1600*	16.00	750	75	24.2	275-1200	1830	VI	1.37- .406	1.37- .406		50	Ele
H	DI	4-4⅞x6	4	448	100-1800*	83-1800	50-1200*	17.00	750	74	32.8	340-800	1930	VI	1.75- .500	1.75- .500		50	Ele
H	DI	6-4⅞x6	4	672	150-1800*	125-1800	85-1400*	17.00	750	72	25.5	500-800	2540	VI	1.75- .500	1.75- .500		50	Ele
HS*	DI	6-4⅞x6	4	672	200-1800*	175-1800	120-1400*	14.00	925	114	21.5	625-1400	3000	VI	1.75- .500	1.75- .500		50	Ele
DODGE																			
T-126	AC	6-3¾x5	4	331	100-2600	.....	94-2600	14.75	900	87	14.2	240-1600	1338	VI	1.55- .279	1.31- .279	2000	40	Ele
GEN'L MOTORS																			
3-71	DI	3-4¼x5	2	212	.....	83-2000	45-1200	16.00	980	70	13.9	263-1000	1150	VI	No Valves	1.25- .375		45	Ele
4-71	DI	4-4¼x5	2	284	.....	110-2000	60-1200	16.00	980	70	11.8	350-1000	1300	VI	No Valves	1.25- .375		45	Ele
6-71	DI	6-4¼x5	2	425	.....	165-2000	90-1200	16.00	980	70	10.1	525-1000	1680	VI	No Valves	1.25- .375		45	Ele
HERCULES																			
DJXB	TC	6-3½x4½	4	260	77-2600	66-2600	51-1800	14.50	750	86	17.2	178-1400	875	VI	1.62- .375	1.12- .375	1650	45	E-G
DJXC	TC	6-3⅝x4½	4	298	83-2600	71-2600	59-1800	14.50	750	87	14.8	208-1500	875	VI	1.62- .375	1.12- .375	1650	45	E-G
DRXB	TC	6-4⅝x5¼	4	474	120-2000	102-2000	89-1600	14.50	750	94	16.1	350-1300	1435	VI	2.00- .395	1.37- .395	1650	45	E-G
DHXB	TC	6-5x6	4	707	176-1800	150-1800	121-1400	14.50	750	97	20.7	530-1400	2500	VI	2.37- .500	1.62- .500	1650	45	E-G
MACK																			
END405	LE	6-4x5½	4	405	107-2200	94-2200	.....	14.60	840	.....	.....	308-1200	1710	VI	1.56- .418	1.50- .418	1400	46	Ele
END457	LE	6-4¼x5⅝	4	457	.....	.....	.....	14.60	840	.....	.....	355-1100	.....	VI	1.56- .418	1.56- .418	1400	46	Ele
END605	LE	6-4⅝x6	4	605	144-2000	130-2000	.....	14.63	840	.....	.....	455-1100	1980	VI	1.64- .500	1.64- .500	1700	46	Ele
WAUKESHA																			
6BKH	DI	6-3¾x4¼	4	282	83-2800	67-2800	44-1800	6.40	500	69	22.1	174-1400	975	VI	1.62- .375	1.25- .375	750	.....	E-H
140HS	DI	6-4¼x5½	4	468	114-2250	95-2250	67-1500	5.80	500	75	22.5	342-1000	1510	VI	1.87- .531	1.37- .469	750	.....	Ele
140HK	DI	6-4¼x5½	4	525	128-2250	109-2250	75-1500	5.80	500	74	21.0	383-1000	1550	VI	1.87- .531	1.37- .469	750	.....	Ele
145HS	DI	6-4¾x6	4	638	143-2000	121-2000	86-1400	5.80	500	76	21.3	450-900	1835	VI	1.87- .594	1.37- .531	750	.....	Ele

*—Supercharged
■—Without fan or muffler

AC—Air Chamber
DI—Direct Ignition

E-G—Electric or Auxiliary Gasoline Engine
E-H—Electric or Hand

Ele—Electric
LE—Lanova Energy Cell

TC—Turbulence Chamber
VI—Vertically In-head

DIESEL FUEL SPECIFICATIONS

(Owing to government restrictions issued by PAW, specifications listed here cannot be guaranteed at all times.)

DIESEL FUEL TRADE NAME	Cetane No.	Viscosity SSU 100 Deg. F.	Water & Sediment Max. %	Carbon Residue Max. %	Ash Max. %	Flash Min. Deg. F.	Sulphur Max. %	A.S.T.M. DISTILLATION 10%	50%	90%	End Point	Gravity	Pour Point Max. Deg. F.	AREAS OF DISTRIBUTION
American Oil Co.														
Amo-Fuel No. 2	45–50	35min.	0.05	0.1	0.01	140	0.25	428	502	581	625	30–34	0	From Maine to Florida.
Atlantic Refining Co.														
Furnace Oil Medium	.....	33–40	0.05	0.20	.....	130–160	0.5	410	462	.....	630	.....	0	Mass., R. I., Conn., N. Y., State Barge Canal, Eastern half Penna., N. J., Del., Baltimore.
Diesel Engine Fuel Oil	50	35–45	0.05	0.1	0.01	150	1.0	460	522	675	.....	30min.	0	From Philadelphia only.
Cities Service Oil Co.														
Diesel Fuel No. 1	50–55	35	Trace	0.01	0.01	150	0.25	480	515	590	650	.....	5	New England and Middle Atlantic States.
Diesel Fuel No. 2	50–55	37–40	0	.....	Trace	150	.....	460	545	665	700	36–39	−10	Central and Mid-Continent Areas.
Continental Oil Co.														
Conoco Diesel Fuel	50min.	35–37	None	0.1*	None	150	0.15	490	512	553	600	38–40	0	Okla., Kan., Neb., Iowa, Ill., Ind., Mo., Minn., Colo., Tex., Ark.
Conoco Diesel Fuel	50min.	35–37	Trace	0.1*	Trace	215	0.15	498	528	576	625	36–38	15	Texas, La.
Conoco Diesel Fuel	50min.	35	Trace	0.05*	Trace	200	0.2	474	496	542	610	38–40	0	Texas.
Conoco Diesel Fuel	50min.	34–36	Trace	0.15*	Trace	150	0.2	352	484	541	640	39–41	−5	Colo., Wyo.
Conoco Diesel Fuel	50min.	34	0.05	0.05*	Trace	150	0.8	412	481	594	700	36–38	0	New Mexico, Texas.
Conoco Diesel Fuel	50min.	35–37	Trace	0.05*	Trace	150	0.2	460	494	555	630	39–40	0	Colo.
Esso Marketers														
Essodiesel 208	52	36	0	Nil	0	170	0.5	450	505	580	640	.....	−0	N. E., N. Y., Pa., S. C., N. C., Va., W. Va., Tenn., La., Ark., Md., Del., D. C., N. J.
Essodiesel 210	50	38	0	0.01	0	170	0.65	450	540	645	710	.....	+10	
Gulf Oil Corp.														
Gulf Diesel Fuel #2	46	35	0.05 max.	0.25 max.	–	135–170	0.50	440	485	600	650	30min.	0	Maine, N. Ham., Ver., Mass., Conn., R. I., N. Y., N. J., Md., Del., Pa., Va., W. Va., D. C.
Gulf Solar Oil	43	35–45	Nil	0.10 max.	–	150–170	0.50	460	500–572	620–671	696	30min.	5	Southern States
Gulf Diesel Fuel #3T	62	35–45	Max. Nil.	0.15 max.	–	150–190	0.50	464	464–536	554–608	650	36min.	0	Mich., Ohio & Ind.
Gulf Diesel Fuel #1T	65	–	Max. Nil.	0.05 max.	–	130–150	0.25	410	415	490	560	40min.	0	Mich., Ohio & Ind.
Phillips Petroleum Co.														
Phillips Diesel Regular	50	35–40	Trace	0.05	0	150	0.5	490	525	600	675	38–40	15	Colo., N. M., Western Texas.
Phillips Diesel Regular	50	35–40	Trace	0.02	0	150	0.2	460	550	630	675	38–40	0–10	Ark., Kan., Ill., Iowa, Minn., Mo., Neb., Okla.
Phillips Diesel Special	50	33–40	Trace	0.02	0	140	0.15	440	520	600	650	39–41	0	Kan., Ill., Iowa, Minn., Mo., Neb.
Phillips Diesel Light	50	30–32	Trace	0.01	0	125	0.15	410	460	500	525	42–44	−25	Kan., Ill., Iowa, Minn., Mo., Neb.
Pure Oil Co.														
Energee Diesel Fuel 138	45min.	33min.	0.05	0.20	Trace	130	0.25	420–440	490–500	580–600	630–650	36–43	10–−10	East of Mississippi River, excluding New England, including Minnesota.
Richfield Oil Corp.														
Richfield Diesel Fuel	42	37	0.05	0.08	0.01	150	0.75	471	.....	615	690	32.6	0	
Shell Oil Co. (San Fran.)														
Dieseline	42	35–40	0.1	0.1	0.01	150	1.0	425–475	550	600	.....	29min.	0–15	Cal., Ore., Wash., Nev., Ariz., Idaho, Utah.
Motor Bus Diesel Fuel	45–52	32	Trace	.....	.....	.....	0.5	385	450	483	.....	38–44	−10	Cal., Ore., Wash., Nev., Ariz.
Shell Oil Co., Inc. (N. Y.)														
"Dieseline"	45min.	34min.	0.05	0.03	0.01	150	1.0	425	495	595	660	33–40	0	Ark., Iowa, La., Minn., Mo., Texas and East of Mississipp
Sinclair Refining Co.														
155 Diesel Fuel	45–55	32	0	0.01	0	125	0.05	385	425	490	525	41–43	−10	All states listed below.
250 Diesel Fuel	45–50	35	0	0.02	0	150	0.25	440	510	600	630	34–40	0	Mo., N. H., Vt., Conn., R. I., Mass., N. Y., N. J., Del., Pa., Md., D. C., Va., W. Va., Ala., Fla., Ga., Miss., N. C., S. C., Tenn., Ky., Okla., Ark., La., Texas, N. M.
346 Diesel Fuel	45	34	0	0.1	0	130	0.10	420	490	570	650	38–40	0	Ind., Ill., Mich., Ohio, Wis., Utah, Colo., Wyo., Idaho, Iowa, Kans., Minn., Miss., Mont., Neb., N. D., S. D.
347 Diesel Fuel	45–50	33	0	0.1	0	130	0.5	420	490	570	650	32–38	0	Utah, Colo., Idaho, Wyo., Iowa, Kan., Minn., Mo., Mont., Nev., Neb., N. D., S. D.
355 Diesel Fuel	50min.	36	0	0.2	0	150	0.25	450	520	600	660	36–39	10	Ind., Ill., Mich., Ohio, Wis., Utah, Colo., Wyo., Idaho, Iowa, Kans., Minn., Miss., Mont., Neb., N. D., S. D.
Socony-Vacuum Oil Co.														
Mobilfuel Diesel	50min.	35min.	Trace	.....	0.01	150	0.5	.....	520	600	700	.....	0	Wherever demand exists.
Mobilfuel Diesel Spec.	50	31	Trace	.....	Trace	115	0.5	410	460	520	560	.....	−20	Wherever demand exists.
Standard Oil Co. of Cal.**														
Standard Diesel	40–42	40–45	Trace	0.02	Trace	176	0.98	455	540	641	718	31.4	0–15	Cal., Ore., Wash., Idaho, Nev., Ariz., Utah, Hawaii, Alaska.
St'd Automotive Diesel	50	.....	0	0	0	146	0.05	381	420	514	580	41.3	−45	Main supply points Cal., Wash. and Oregon.
Standard Oil Co. of Ind.**														
Standolind H. S.	50	35	Trace	0.15	0.01	160	0.32	432	494	572	672	38	0	Mich., Ind., Ill., Minn., Iowa, Mo., N. D., S. D., Kans., Mont.
Stanolex	45	33	Trace	0.10	Trace	150	0.16	420	475	565	625	37.1	−10	Wyo., Colo., Wis.
Standard Light	50	32	Trace	0.02	Trace	150	0.08	395	440	500	560	41.5	−20	Also Neb. by Standard Oil Co. of Neb.
Sun Oil Company														
Diesel Fuel Light	48–53	33–36	0.05	0.10	Trace	125	0.15	440	520	600	650	34–39	5	Phila., N. J. (Atlantic City, Newark, Trenton); Wilmington, Baltimore, Providence, Bridgeport, N. Y. (N. Y. C., Newburgh, Peekskill, Syracuse, Rochester, Westchester Co.).
The Texas Company														
445 Diesel Chief	50–53	33–40	0.02	0.05	0.01	150	0.75	450	490	580	600	35–40	−20.0	Wherever demand exists.
422 Diesel Chief	45–55	30–32	0.02	0.05	0.01	140	0.50	399	430	480	500	40.45	−40	Wherever demand exists.
Tidewater Asso. Oil (Cal.)														
Asso. Motor Diesel Fuel	41–42	38	Trace	0.05	Trace	150	0.75	460	510	640	720	30–33	0–15	Cal., Ore., Wash., parts of Idaho, Nev., Ariz.
Union Oil Co. of Calif.														
"Diesel"	42	38–40	Trace	0.05	Trace	150	1.0	475	540	640	700	33	20	Ariz., Idaho, Nev., Cal., Ore., Wash.

*—Carbon residue figures are based on the "10% bottoms test."
**—Most of the data submitted are based upon current tests and not as guaranteed specifications.

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TRUCK SPECIFICATIONS TABLE

OF 1944 PRODUCTION MODELS

DATA SUPPLIED BY MANUFACTURERS AND TABULATED BY

COMMERCIAL CAR JOURNAL

★ ★ ★

KEY TO DEFINITIONS, ABBREVIATIONS AND REFERENCES

DEFINITIONS

MAKE AND MODEL
Only Domestic Truck Models are listed.

OPTIONAL UNITS
For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE
The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE
The Gross Weights published herewith are those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weights that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT
The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE
The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE
The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost, if it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE
The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE
The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.
Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE
Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS
Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO REFERENCES

c.f.—Cab Forward design.

c.o.e.—Cab-Over-Engine design.

(D)—Diesel-engine equipped.

(T)—Designed for tractor use only.

(11) **International Harvester**—Specifications shown represent only the basic standard chassis units and standard chassis ratings in keeping with definitions established by Commercial Car Journal. Optional units not shown such as engines, clutches, transmissions, axles or axle ratios, brakes, wheels and tires, frames or frame reinforcements, optional wheelbases or any other units which make up part of the truck chassis and which International will furnish and approve from the factory as optional equipment can or will change either the ratings, chassis weight shown or performance of the truck as indicated by this list.
Also the company reserves the privileges of assigning special gross vehicle ratings for any chassis providing in the opinion of our engineering department, the type of service justifies the new rating without decreasing the safety factor designed into the truck.
(a)—Available with Eaton Two-Speed Axle designated KS Models.

KEY TO ABBREVIATIONS

MAKES—ALL

BL—Brown-Lipe.
Bu or Bud—Buda.
Cl or Cla—Clark.
Con—Continental.
Cum—Cummins-Diesel.
Eat—Eaton.
Fu—Fuller.
Her—Hercules.
L—Lockheed.
LH—Lockheed front, Wagner "hi-Torq" rear.
LW—Lockheed front, Wisconsin rear.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Shu—Shuler.
Spi—Spicer.
T or Tim—Timken.
TW—Timken-Wisconsin.
WG—Warner Gear.
Wau—Waukesha.
W or Wis—Wisconsin.
Ws—Westinghouse.
WW—Westinghouse or Wagner

BRAKES—SERVICE

Location

4—Four Wheels, front and rear.
4r—Four Wheels, rear only.

Type

I—Internal.
X—External.

Operation

A—Air.
H—Hydraulic.
V—Vacuum.

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
6—Six wheels.
J—Jackshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
X—External.
PD—Two drums on rear of power divider.

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Foundry.
c—Cast iron.
Cl—Copper iron.
D—Dayton.
G—Gunite.
N—Nickel iron.

(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center
Tf—Tapered front.
A—Straight section sidemembers, lined with oak inserts.

GOVERNOR STANDARD

Y—Yes.
N—No.

REAR AXLE

Final Drive and Type

B—Bevel.
F—Full-floating.
Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.

Gear Ratios

(**) Only one ratio.

Drive and Torque

H—Hotchkiss (springs).
R—Radius Rods.
L—Parallel Torque Rods
T—Torque Arm.

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
6—All wheels.

Line Number	MAKE AND MODEL	Chassis List Price	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear Standard Front and Rear	TIRE SIZES Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings Number, Diameter and Length	Governor Standard	TRANSMISSION Make and Model	Forward Sp'ds	REAR AXLE Make and Model	Gear and Type	Drive 'X' Torque	Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operat'n	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME Side Rail Dimensions	Type
1	Autocar.....C-50		200	200		9350		10.00/22	Own 377	6-4x5	377	5.8	282	119-2800	7-3¼x11.91	Y	Own DF5	5	Own F	2SF	H	** 7.56	Tim 35100	Ws4IA	658	947	N	2I	120	9x3x¼	T
2	(T).....C-50-T		148	148		8990		10.00/20	Own 377	6-4x5	377	5.8	282	119-2800	7-3¼x11.91	Y	Own DF5	5	Own F	2SF	H	** 7.56	Tim 35100	Ws4IA	594	838	N	2I	68	9x3x¼	T
3	(T).....C-70-T		148	148		9440		10.00/20	Own 447	6-4¼x5¼	447	5.7	352	133-2500	7-3¼x13.76	Y	Own TF5	5	Own F	2SF	H	** 7.56	Tim 35000	Ws4IA	594	838	N	CD	68	9x3x¼	T
4	(T).....C-70-T		148	148		9760		11.00/22	Own 501	6-4½x5¼	501	5.7	397	145-2500	7-3¼x13.76	Y	Own TF5	5	Own TG	2SF	H	** 7.20	Tim 27454	Ws4IA	658	947	N	CD	68	9x3x¼	T
5	.....C-70		200	200		10340		11.00/22	Own 501	6-4½x5¼	501	5.7	397	145-2500	7-3¼x13.76	Y	Own TF5	5	Own TG	2SF	H	** 7.20	Tim 27454	Ws4IA	658	947	N	CD	120	9x3x¼	T
6	(T).....C-90-T		148	148		10950		11.00/24	Own 501	6-4½x5¼	501	5.7	397	145-2500	7-3¼x13.76	Y	Own TF5	5	Own G	2SF	H	** 7.40	Tim 27454	Ws4IA	739	1050	N	CD	68	9x3x¼	T
7	.....C-90		200	200		12100		11.00/24	Own 501	6-4½x5¼	501	5.7	397	145-2500	7-3¼x13.76	Y	Own TF48A3	12	Own G	2SF	H	** 8.76	Tim 27454	Ws4IA	739	1050	N	TD	120	10½x3x¼	T
8	(D)(T)DC-100-T		174	174		13105		10.00/22	Cum HB600	6-4⅛x6	672	17.	500	150-1800	7-4½x16½	Y	Own§ A3	12	Own G	2SF	H	** 6.02	Tim 27454	Ws4IA	658	947	N	TD	85¼	9x3x¼	CTf
9	(D)(T)DC-100-T		174	174		13480		11.00/24	Cum HB600	6-4⅛x6	672	17.	500	150-1800	7-4½x16½	Y	Own§ A3	12	Own G	2SF	H	** 6.02	Tim 27454	Ws4IA	739	1050	N	TD	85¼	9x3x¼	CTf
10	(D)(T)DC-100-T		174	174		13105		10.00/22	Cum HB600	6-4⅛x6	672	17.	500	150-1800	7-4½x16½	Y	Own§ A3	12	Own G	2SF	H	** 7.40	Tim 27454	Ws4IA	658	947	N	TD	85¼	9x3x¼	CTf
11	(D)(T)DC-100-T		174	174		13480		11.00/24	Cum HB600	6-4⅛x6	672	17.	500	150-1800	7-4½x16½	Y	Own§ A3	12	Own G	2SF	H	** 7.40	Tim 27454	Ws4IA	739	1050	N	TD	85¼	9x3x¼	CTf
12	Brockway.....78		138	164	13000	3965	6.00/20D	32x6	Con 24B	6-4⅛x4⅜	210	6.0	154	71-3100	4-2⅜x6	N	WG T9	4	Tim 53521H	SF	H	5.66–6.6	Tim 30000H	L4IH	255	402	a	TX	65¼	8x3x¼	T
13	83		138	176	14000	4100	6.50/20D	7.50/20	Con 25B	6-3⅞x4⅜	244	6.2	180	80.5-3100	4-2⅜x6	N	WG T9	4	Tim 53521H	SF	H	5.66–6.6	Tim 30000H	L4IHV	255	402	a	TX	65¼	8x3x¼	T
14	88		150	176	15000	4500	6.50/20D	7.50/20	Con 25B	6-3⅞x4⅜	244	6.2	180	80.5-3100	4-2⅜x6	N	WG T9	4	Tim 53307H	SF	H	6.2–6.8	Tim 30000H	L4IHV	298	477	a	TX	71¼	8x3x¼	T
15	92		150	188	16000	4700	7.00/20D	8.25/20	Con 25B	6-3⅞x4⅜	244	6.2	180	80.5-3100	4-2⅜x6	N	WG T9	4	Tim 54411H	SF	H	5.83–6.8	Tim 31000H	L4IHV	329	580	a	CD	83¼	8x3x¼	T
16	94		155	188	18500	5050	7.50/20D	8.25/20	Con 25B	6-3⅞x4⅜	244	6.2	180	80.5-3100	4-2⅜x6	N	BL B341	4	Tim 56411H	SF	H	6.16–7.4	Tim 31000H	L4IHV	370	660	a	CD	83¼	8x3x¼	T
17	112		150	188	18000	5150	7.00/20D	8.25/20	Con 38B	6-3¾x4⅜	290	6.0	217	92-2800	7-2⅝x12½	N	BL B341	4	Tim 54411H	SF	H	5.83–6.8	Tim 31000H	L4IHV	329	580	a	CD	77¼	8x3x¼	T
18	128		156	188	20000	5550	7.50/20D	8.25/20	Con 38B	6-3¾x4⅜	290	6.0	217	92-2800	7-2⅝x12½	N	BL B341	4	Tim 56411H	SF	H	5.71–7.4	Tim 31000H	L4IHV	370	660	a	CD	83¼	8x3x¼	T
19	146		126	206	20000	6060	8.25/20D	9.00/20	Con 40B	6-4x4⅜	330	6.0	245	104-2800	7-2⅝x12½	Y	Fu 5A330	5	Tim 56411H	SF	R	5.76–7.4	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
20	(T).....147		132	164	.....	6000	8.25/20D	9.00/20	Con 40B	6-4x4⅜	330	6.0	245	104-2800	7-2⅝x12½	Y	Fu 5A33	5	Eat A17-17000	SFd	H	Dual Rge.	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
21	152		126	206	22000	6350	8.25/20D	9.00/20	Con 41B	6-4⅛x4⅝	371	5.9	280	100-2500	7-2⅞x13½	Y	Fu 5A43	5	Tim 56411H	SF	R	5.71–6.83	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
22	(T).....153		132	164	.....	6400	8.25/20D	9.00/20	Con 41B	6-4⅛x4⅝	371	5.9	280	100-2500	7-2⅞x13½	Y	Fu 5A43	5	Tim 58300H	SF	H	6.14–7.8	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
23	(T).....154		132	164	.....	6300	8.25/20D	9.00/20	Con 41B	6-4⅛x4⅝	371	5.9	280	100-2500	7-2⅞x13½	Y	Fu 5A43	5	Eat A17-71000	SFd	H	Dual Rge.	Tim 32505H	L4IHV	370	660	a	CD	53	8x3x¼	T
24	(T).....156		132	164	.....	6950	9.00/20D	10.00/20	Con 42B	6-4¼x4⅝	405	5.7	305	112-2500	7-2⅞x13½	Y	Fu 5A43	5	Eat A9-20000	SFd	H	Dual Rge.	Tim 32505H	L4IHV	459	768	a	CD	53	8½x3x¼	T
25	162		121	219	25000	7250	9.00/20D	10.00/20	Con 41B	6-4⅛x4⅝	371	5.9	280	100-2500	7-2⅞x13½	Y	Fu 5A43	5	Tim 58300H	SF	R	6.14–7.8	Shu 15785B	L4IHV	370	663	a	CD	51	8¼x3x¼	T
26	166		121	219	28000	7800	10.00/20D	11.00/20	Con 42B	6-4¼x4⅝	405	5.7	305	112-2500	7-2⅞x13½	Y	Fu 5A43	5	Wis 1337H	2F	R	5.63–8.59	Shu 15785B	L4IHV	459	772	a	CD	51	8¼x3x¾	T
27	.....170X		153	219	25000	7960	9.00/20D	10.00/22	Con 33B	6-4⅜x4⅝	381	4.7	276	106-2600	7-2¾x13⅛	Y	Fu 5A62	5	Tim 72300H	2F	R	5.78–7.35	Shu 15785B	L4IHV	370	663	a	CD	83¼	8¼x3x¾	T
28	.....175X		153	219	30000	8550	9.00/20D	11.00/22	Con 34B	6-4⅜x4⅝	381	4.7	276	106-2600	7-2¾x13⅛	Y	Fu 5A62	5	Wis 1337BH	2F	R	5.63–8.59	Shu 15785B	L4IHV	459	772	a	CD	83¼	8¼x3x¾	T
29	.....195X		153	219	28000	8650	10.00/20D	11.00/22	Con 33B	6-4⅜x4⅝	381	4.7	276	106-2600	7-2¾x13⅛	Y	Fu 5A62	5	Wis 1337BH	2F	R	5.63–8.59	Shu 15785B	L4IHV	459	772	a	CD	83¼	8¼x3x¾	T
30	.....220X		153	219	34000	9050	11.00/20D	12.00/24	Con 34B	6-4⅜x4¾	427	5.4	322	133-2600	7-2¾x13⅛	Y	Fu 5A62	5	Wis 1757H	2F	R	6.06–8.82	Shu 15795B	L4IHV	536	899	a	CD	83¼	8¼x3x¾	T
31	.....240X		153	219	30000	8590	10.00/20D	11.00/24	Con 35B	6-4½x5¼	501	5.4	370	144-2400	7-2¾x13⅛	Y	Fu 5A62	5	Wis 1337BH	2F	R	5.63–7.52	Shu 15785B	L4IHV	459	772	a	CD	83¼	8¼x3x¾	T
32	.....260X		195	219	34000	9720	11.00/22D	12.00/24	Con 35B	6-4½x5¼	501	5.4	370	144-2400	7-2¾x13⅛	Y	Fu MHU	4	Wis 1757H	2F	R	6.06–8.82	Shu 15795B	L4IHV	536	899	a	CD	125¼	8¼x3x¾	B
33	.....260S		195	219	36000	10000	11.00/24D	12.00/24	Con 35B	6-4½x5¼	501	5.4	370	144-2400	7-2¾x13⅛	Y	Fu MHU	4	Wis 1757H	2F	R	6.06–8.82	Shu 15795B	LW41DV	600	899	a	CD	125¼	8¼x3x¾	B
34	Chevrolet.....MR		134	134	11500	°4210	7.50/20-8	7.50/20-8	Own	6-3⅛x3⅛	235	6.5	192	93-3100	4-2¾x5⅛	N	Own	4	Own	HyF	H	** –6.17	Own	O4IH	329	468	a	2I	57⅜	7x2¾x⅛	P
35	.....MS		160	160	•12000	°▲4425	7.50/20-8	7.50/20-8	Own	6-3⅛x3⅛	235	6.5	192	93-3100	4-2¾x5⅛	N	Own	4	Own	HyF	H	• –6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x⅛	P
36	.....MS		160	160	11500	°4290	7.50/20-8	7.50/20-8	Own	6-3⅛x3⅛	235	6.5	192	93-3100	4-2¾x5⅛	N	Own	4	Own	HyF	H	** –6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x⅛	P
37	.....MS		160	160	11500	°4290	7.50/20-8	7.50/20-8	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5⅛	N	Own	4	Own	HyF	H	** –6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x⅛	P
38	.....MS		160	160	11500	°■4330	7.00/20-10	7.00/20-10	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5⅛	N	Own	4	Own	HyF	H	** –6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x⅛	P
39	.....MS		160	160	13500	°4430	7.00/20-10	7.00/20-10	Own	6-3½x3¾	216	6.5	174	90-3300	4-2¾x5⅛	Y	Own	4	Own	HyF	H	** –6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x⅛	P
40	.....MS		160	160	11500	°■4355	7.50/20-8	7.50/20-8	Own	6-3⅛x3⅛	235	6.5	192	93-3100	4-2¾x5⅛	N	Own	4	Own	HyF	H	** –6.17	Own	O4IH	329	478	a	2I	83¼	7x2¾x⅛	P
41	Corbitt(T)..18TG		137	137	35000	††7200	9.00/20	9.00/20	Con M6330	6-4x4¾	330	6.0	240	102-2800	7-2⅝x12½	N	Fu 5A330	5	Tim 56410PA	SF	H	** –6.14	Tim 32502TW	Ws4IA	370	660	a	TX	60½	7¾x3¼x¼	T
42	(T).....22TG		144	144	40000	††8550	10.00/20	10.00/22	Con B6405	6-4⅛x4⅝	405	5.7	315	115-2600	7-2¾x13½	N	Fu 5A430	5	Tim 58300PA	SF	H	** –6.14	Tim 35000TW	Ws4IA	518	844	a	TX	60½	8x3¼x¼	T
43	(T).....22BT		148	148	40000	††9600	10.00/22	10.00/24	Con 22R	6-4½x5¼	501	5.4	370	148-2400	7-2¾x13⅛	N	Fu 5A620	5	Tim 58415PA	SF	H	** –6.14	Tim 35100TW	Ws4IA	560	867	a	2	60½	8¼x3¼x¼	T
44	(T).....27BT		148	148	45000	††9600	10.00/22	10.00/24	Con 22R	6-4½x5¼	501	5.4	370	148-2400	7-2¾x13⅛	N	Fu 5A620	5	Tim 58415PA	SF	H	** –6.14	Tim 35100TW	Ws4IA	560	867	a	2	60½	8¼x3¼x¼	T
45	(D)(T)..D27BT		152	152	45000	††9600	10.00/22	10.00/24	Cum HB600	6-4⅛x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 5A920	5	Tim 58415PA	SF	H	** –5.14	Tim 26450W	Ws4IA	701	976	a	2	60½	8½x3¼x¼	T
46	Dart.....40G	1995	139	252	14000	5190	7.00/20D	8.25/20	Her JXC	6-3¾x4¼	282	5.8	176	73-2800	7-2¼x10⅛	Y	Fu 5A330	5	Tim 54412H	SF	H	5.83–6.80	Tim 31005H	L4IHV	356	527	a	TX	Opt	10x3x¼	T
47	.....50G	2400	139	252	17000	5540	7.50/20D	10.00/20	Her JXD	6-4x4¼	320	5.6	204	84-2800	7-2½x10¼	Y	Fu 5A330	5	Tim 56411H	SF	H	6.16–7.40	Tim 31005H	L4IHV	440	660	a	TX	Opt	10x3x¼	T
48	.....50G–Spec.	2780	139	252	19000	6190	8.25/20D	10.00/20	Wau 6MZR	6-4¼x4¾	404	4.7	300	112-2500	7-2⅝x13¼	Y	Fu 5A430	5	Tim 56411H	SF	H	6.16–7.40	Tim 31005H	L4IHV	440	660	a	TX	Opt	10x3x¼	T
49	.....60G	3200	139	252	20000	6765	9.00/20D	11.00/20	Wau 6MZR	6-4¼x4¾	404	4.7	300	112-2500	7-2⅝x13¼	Y	Fu 5A430	5	Tim 58300H	SF	H	5.57–7.80	Tim 33000H	L4IHV	440	660	a	TX	Opt	10x3x¼	T
50	.....70DR	3975	159	252	21000	7100	10.00/20D	11.00/20	Wau 6MZR	6-4¼x4¾	404	4.7	300	112-2500	7-2⅝x13¼	Y	Fu 5A430	10	Tim 57533H	2F	H	6.85–9.41	Tim 33000H	L4IHV	513	768	a	CD	Opt	10x3x¼	T
51	.....80W	4625	139	252	23000	7994	10.00/20D	11.00/20	Wau SRKR	6-4⅝x5½	517	4.4	410	125-2300	7-3x14	Y	Fu 5A620	5	Tim 65725H	WF	H	6.80–10.6	Tim 35000H	L4IHV	513	768	a	CD	Opt	10x3½x⅛	B
52	.....100W	6025	142	252	26500	9594	10./2000D	12.00/20	Wau SRKR	6-4⅝x5½	517	4.9	410	125-2300	7-3x14	Y	Fu 5A620	15	Tim 66725H	WF	H	6.02–9.20	Tim 27450H	L4IHV	529	867	a	TD	Opt	10x3½x⅛	B
53	Diamond T..404H		139	175	13500	.....	7.50/20	8.25/20	Her CBJXE3	6-3½x4½	245	5.7	174	77-2800	7-2½x10⅛	Y	WG T9A	4	Eat A7-1350	SF	H	Dual Rge.	Cla F266	L4IHV	333	522	A	TX	60	8¼x3¼x¼	T
54	.....404HH		163	175	14700	.....	8.25/20	8.25/20	Her CBJXE3	6-3½x4¼	245	5.7	174	77-2800	7-2½x10⅛	Y	WG T9A	4	Cla R950	SF	H	** –6.33	Cla F450	L4IHV	310	510	A	TX	60	8¼x3¼x¼	T
55	509		139	175	14700	.....	8.25/20	8.25/20	Her CBJXB*	6-3⅝x4¼	263	6.1	191	82-2800	7-2½x10⅛	Y	WG T9A	4	Eat A7-1350	SF	H	Dual Rge.	Cla F450	L4IHV	363	613	A	TX	72	8¼x3¼x¼	T
56	.....614H		139	175	18800	.....	9.00/20	10.00/20	Her CBJXD	6-4x4¼	320	5.9	228	96-2800	7-2½x10⅛	Y	Cla 205V	5	Eat 18000	SF	H	Dual Rge.	Cla F450	L4IHV	403	689	A	TD	72	8¼x3¼x¼	T
57	806		130	142	26000	.....	11.00/20	11.00/20	Her CBWXLC3	6-4¼x4¾	404	5.9	300	114-2400	7-2⅝x13¼	Y	Cla 270V	5	Eat 20000	SF	R	Dual Rge.	Tim 35100TW	Ws4IA	614	919	A	TD	102	10½x3¼x¼	T
58	806		154	190	28000	.....	11.00/20	11.00/20	Her CBWXLC3	6-4¼x4¾	404	5.9	300	114-2400	7-2⅝x13¼	Y	Spi 6241	12	Tim U200P	SF	R	** –7.84	Tim 35100TW	Ws4IA	.....	.....	A	TD	72	10½x3¼x¼	T
59	(D).....910		172	172	36000	.....	10.00/22	10.00/20	Cum HB600	6-4⅛x6	672	17.	500	150-1800	7-4½x16¾	Y	Spi 7851, 703	15	Tim U200P	2F	R	** –7.04	Tim 36020TW	Ws4IA	.....	.....	A	TD	90½	10½x3¼x¼	T
60	Dodge.....WF31		135	135	13500	.....	7.00/20†	.....	Own	6-3⅛x4¼	236	6.8	190	115-3800	4-2¼x5½	Y	NP	4	Own	HyF	H	5.62–6.28	Own	O4IH	252	406	CI	TX	60	7x2¾x.21	P
61	.....WF32		160	160	13500	.....	7.00/20†	.....	Own	6-3⅛x4¼	236	6.8	190	115-3800	4-2¼x5½	Y	NP	4	Own	HyF	H	5.62–6.28	Own	O4IH	252	406	CI	TX	84 11/16	7x2¾x.21	C
62	.....WFM38		159	159	13500	.....	7.00/20†	.....	Own	6-3⅛x4¼	236	6.8	190	115-3800	4-2¼x5½	Y	NP	4	Own	HyF	H	** –6.28	Own	O4IHV	252	406	CI	TX	114	7½x2⅛x⅞	P
63	.....WFA31		135	135	14000	.....	7.00/20†	8.25/20	Own	6-3⅛x4¼	236	6.8	190	115-3800	4-2¼x5½	Y	NP	4	Eat	SFd	H	Dual Rge.	Own	O4IHV	252	406	CI	TX	60	7x2¾x.21	P
64	.....WHA45		136	136	16000	.....	8.25/20‡	.....	Own	6-3⅞x4½	250	6.8	200	120-3800	4-2½x5½	Y	NP	4	Eat	SFd	H	Dual Rge.	Own	O4IHV	335	609	CI	TX	60⅛	8¼x2⅛⅞x⅞	P
65	Duplex.....T	2400	136	190	18000	6000	8.25/20D	9.00/20	Her JXD	6-4x4¼	320	5.8	225	95-2800	7-2¼x10⅛	Y	Fu 5A330	5	Tim 56411	SF	H	6.16–7.40	Tim 32502	L4IHV	420	654	A	TX	59	9x3½x¼	C
66	.....SC	3710	166	190	22000	7600	9.00/20D	9.75/20	Bud K369	6-4¼x4¾	369	5.3	235	99-2600	7-3x11½	Y	Spi 3353	5	Wis 72300H	2F	R	6.36–8.40	Shu 5572	L4IHV	420	654	A	CD	73¼	9x3½x¼	C
67	.....SAC	4995	166	210	26000	8360	10.00/20D	11.00/20	Bud K428	6-4⅝x4¾	428	5.3	280	107-2600	7-3x11½	Y	Spi 3353	5	Tim 75743H	2F	R	7.37–9.41	Shu 5572	L4IHV	504	767	A	CD	79¼	9x3½x¼	C
68	.....SAC-H	4995	166	210	28000	8630	10.00/20D	11.00/20	Her YXC2	6-4½x4¾	453	5.4	325	110-2200	7-3x14	Y	Spi 3353	5	Tim 75743H	2F	R	7.37–9.41	Shu 5572	L4IHV	504	767	A	CD	79¼	9x3½x¼	C
69	.....K	5980	166	210	32000	9750	11.00/20D	12.00/20	Bud L525	6-4½x5½	525	5.3	340	112-2200	7-3x11½	Y	Spi 5351	5	Tim 76810	2F	R	6.86–9.20	Shu 639	L4IHV	554	844	A	CD	79	10½x3⅛x¼	C
70	.....K-H	5980	166	210	32000	10200	11.00/20D	12.00/20	Her RXC	6-4⅝x5¼	529	5.4	385	132-2300	7-3x14½	Y	Spi 5351	5	Tim 76810	2F	R	6.86–9.20	Shu 639	L4IHV	554	844	A	CD	79	10½x3⅛x¼	C
71	L	7550	172	210	40000	11000	12.00/24D	12.00/20	Bud LO525	6-4½x5½	525	5.5	385	135-2200	7-3x11½	Y	Spi 7341	12	Tim 79733W	2F	R	7.97–12.14	Shu 639	Ws4IA	724	9s4	A	CD	86¾	10½x3⅛x¼	C

§ Or Brown-Lipe 7741.
▲ Add 110 lb. for two speed axle.
• Equipped with heavy duty rear axle—6.17 ratio or—two speed rear axle 5.64 and 8.22 ratio.
■ Equipped with heavy duty front axle and springs.
* Or CBJXC 6-3¾x4¼.
†† Weight of complete truck tractor less fifth wheel.
† Rear 7.50/20 8-ply.
‡ Rear 9.00/20 10-ply.
° Includes cab and size tires shown.

Axle designated KS Models.

H—Hydraulic.
V—Vacuum.

C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.

2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
6—All wheels.

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE: Minimum Standard	WHEEL-BASE: Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES: D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Sp'ds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES: SERVICE: Make Location Type Operat'n	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Area	BRAKES: SERVICE: Drum Material	BRAKES: SERVICE: Hand Location Type	C-A Dimension (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
1	Federal....18M	.....	146	194	15000	4550	8.25/20D	.....	Her JXBF	6–3 3/4 x 4 1/4	263	6.1	187	82–3000	7–2 1/2 x 10 1/2	Y	WG T9	4	Tim 54411H	SF	H	** –6.80	Tim 30003H	L4IHV	330	578	a	TX	67	8 x 2 7/8 x 1/2 *	T
2	.....18M2	.....	146	194	15000	4665	8.25/20D	.....	Her JXBF	6–3 3/4 x 4 1/4	263	6.1	187	82–3000	7–2 1/2 x 10 1/2	Y	WG T9	4	Tim 94441H	SF	H	6.06–8.11	Tim 30003H	L4IHV	330	578	a	TX	67	8 x 2 7/8 x 1/2 *	T
3	.....29M	.....	146	194	20000	6100	9.00/20D	.....	Her JXDF	6–4x4 1/4	320	5.9	244	95–2800	7–2 1/2 x 10 1/2	Y	Cla 205V	5	Tim 56411DP	SF	H	** –6.83	Tim 32514H	LT4IHV	390	659	a	TX	67	8 x 2 7/8 x 1/2 *	T
4	.....29M2	.....	146	194	20000	6282	9.00/20D	.....	Her JXDF	6–4x4 1/4	320	5.9	244	95–2800	7–2 1/2 x 10 1/2	Y	Cla 205V	5	Tim 96710DP	dF	H	6.07–8.12	Tim 32514H	LT4IHV	390	659	a	TX	67	8 x 2 7/8 x 1/2 *	T
5	.....29MA	.....	155	180	20000	6965	9.00/20D	.....	Her JXDF	6–4x4 1/4	320	5.9	244	95–2800	7–2 1/2 x 10 1/2	Y	Cla 205V†	5	Tim 58301H	SF	H	** –6.83	Tim 32514H	LT4IHV	513	843	a	TD	76	8 1/4 x 2 7/8 x 11/16 *	T
6	.....45M	.....	143	203	24000	8235	10.00/20D	.....	Con B6427	6–4 1/8 x 4 7/8	427	6.6	332	128–2600	7–2 7/8 x 13 1/2	Y	Cla 270VO	5	Tim 58301W	SF	R	** –6.83	Tim 35011TW	TW4IA	606	902	a	TD	60 1/2	10 1/4 x 3 1/4 x 1 1/8 ●	T
7	.....55M	.....	143	203	27000	8955	11.00/20D	.....	Con B6427	6–4 1/8 x 4 7/8	427	6.6	332	128–2600	7–2 7/8 x 13 1/2	Y	Cla 270VO	5	Tim S-200P	2	R	** –7.84	Tim 36020TW	TW4IA	722	1051	a	TD	60 1/2	10 1/4 x 3 1/4 x 1 1/8 ●	T
8	.....55MA	.....	155	203	27000	9240	11.00/20D	.....	Con B6427	6–4 1/8 x 4 7/8	427	6.6	332	128–2600	7–2 7/8 x 13 1/2	Y	Cla 270V†	5	Tim S-200P	2	R	** –7.84	Tim 36020TW	TW4IA	722	1051	a	TD	72 1/2	10 1/4 x 3 1/4 x 1 1/8 ●	T
9	.....60MA	.....	155	203	28000	10150	11.00/20D	.....	Con 2ZR	6–4 1/2 x 5 1/4	501	5.2	400	150–2300	7–2 3/4 x 14 1/2	Y	Cla 326V‡	5	Tim S-200P	2	R	** –7.84	Tim 36020TW	TW4IA	722	1051	a	TD	72 1/2	10 1/4 x 3 1/4 x 1 1/8 *	T
10	Ford.....498T-81	.....	158	158	.....	.....	7.50/20D	8.25/20-10	Own	8–3 1/8 x 3 3/4	239	6.4	176	100–3800	–2 1/2 x 5 1/4	N	Own 41T	4	Own 01T	FS	H	** –6.67	Own 01T	O4IH	303	506	c	TX	84.06	7x2.75x.21	CT‖
11	.....494T	.....	194	194	.....	.....	7.50/20D	8.25/20-10	Own	8–3 1/8 x 3 3/4	239	6.4	176	100–3800	–2 1/2 x 5 1/4	N	Own 41T	4	Own 01T	FS	H	** –6.67	Own 01T	O4IH	303	506	c	TX	.....	7x2.75x.21	CT‖
12	International(11)																														
13	(a).....K-5	770	135	177	13500	3585	6.00/20D	8.25/20	O-GRD 233	6–3 1/8 x 4 1/2	233	6.3	181	93–3400	4–2 5/8 x 6 1/2	N	O H41B	4	Own R1360	SF	H	6.16–6.66	Own F350	LH4IH	294	509	c	TX	60	8x3x 1/4	T
14	(a).....K-7	1490	134	176	16500	4810	7.00/20D	9.00/20	O-BLD 269	6–3 1/8 x 4 1/2	269	6.3	222	100–3000	4–2. 7x5 1/2	N	Own F51	5	Own R1560	SF	H	6.5–7.16	Own F470	LH4IHV	368	633	c	TX	60	8 1/4 x 3 1/8 x 1/4	T
15	(a).....KR-11	4225	149	197	27000	8100	36x8D	12.00/20	O-RED 450	6–4 3/4 x 5	450	6.3	360	134–2600	7–3 1/4 x 10 1/2	Y	Fu 5A620	5	Own R1700	2SF	H	7.10–8.05	Own F750	WW4IA	616	1030	G	PX	72	10x3 1/2 x 1/4	T
16	Kenworth(D)..521	.....	190	225	35000	10000	9.00/20D	11.00/20	Cum HB6	6–4 1/4 x 6	672	17.	500	150–1800	7–4 1/2 x 16 1/2	Y	BL 7641	4	Tim 76800	2F	H	6.02–9.20	Tim 36000	Ws4IA	704	1050	a	TD	103	9 1/2 x 3 1/4 x 1/2	C
17	Reo.....19BHS	.....	145	145	14000	4349	8.25/20D	8.25/20	Own GC245	6–3 1/2 x 4 1/4	245	6.2	191	89–3100	7–2 5/8 x 10. 6	Y	Cla 185F	4	Tim 94427	2	H	6.06–8.12	Tim 30000	L4IHV	327	478	c	TX	84	9x3x 1/4	T
18	.....19BHS	.....	145	145	14000	4205	7.50/20D	7.50/20	Own GC245	6–3 1/2 x 4 1/4	245	6.2	191	89–3100	7–2 5/8 x 10. 6	Y	Cla 185F	4	Tim 54412	SF	H	** –6.8	Tim 30000	L4IHV	327	478	c	TX	84	9x3x 1/4	T
19	.....19CHS	.....	165	165	14000	4402	8.25/20D	8.25/20	Own GC245	6–3 1/2 x 4 1/4	245	6.2	191	89–3100	7–2 5/8 x 10. 6	Y	Cla 185F	4	Tim 54412	SF	H	** –6.8	Tim 30000	L4IHV	327	478	c	TX	105	9x3x 1/4	T
20	.....20BHS	.....	145	165	15500	5147	8.25/20D	9.00/20	Own GC288	6–3 1/2 x 5	288	6.2	221	94–3000	7–2 5/8 x 10. 6	Y	Cla 205V	5	Tim 56427	SF	H	** –6.16	Tim 31104	L4IHV	352	....	c	TX	84	9x3x 1/4	T
21	.....20XHS	.....	210	235	15500	4985	8.25/20D	8.25/20	Own GC288	6–3 1/2 x 5	288	6.2	221	94–3000	7–2 5/8 x 10. 6	Y	Cla 185F	4	Tim 56427	SF	H	** –6.16	Tim 31104	L4IHV	352	....	c	TX	150	9 1/4 x 3 1/8 x 1/4	T
22	.....20XS	.....	190	210	15500	4500	7.50/20D	8.25/20	Own GC245	6–3 1/2 x 4 1/4	245	6.2	191	89–3100	7–2 5/8 x 10. 6	Y	Cla 185F	4	Tim 54412	SF	H	** –6.8	Tim 31104	L4IHV	350	....	c	TX	150	9 1/4 x 3 1/8 x 1/2	T
23	.....20XHS	.....	130	130	15500	4842	8.25/20D	8.25/20	Own GC288	6–3 1/4 x 5	288	6.2	221	94–3000	7–2 5/8 x 10. 6	Y	Cla 205V	5	Tim 94427	2	H	6.06–8.12	Tim 30000	L4IHV	327	....	c	TX	70	9x3x 1/4	T
24	.....25VBS	.....	145	145	24000	7655	10.00/20D	10.00/20	Con 6427	6–4 3/8 x 4 7/8	427	6.1	324	127–2600	7–2 7/8 x 11 1/8	Y	Cla 270V■	5	Tim S-200P	2F	H	** –7.84	Tim 35000	Ws4IA	476	....	c	TX	85	9 1/4 x 3 1/8 x 1/2	T
25	.....25VBS	.....	145	145	24000	7505	10.00/20D	10.00/20	Con 6427	6–4 3/8 x 4 7/8	427	6.1	324	127–2600	7–2 7/8 x 11 1/8	Y	Cla 270V	5	Tim S-200P	2F	H	** –7.84	Tim 35000	Ws4IA	476	....	c	TX	85	9 1/4 x 3 1/8 x 1/2	T
26	.....25VXS	.....	130	130	24000	7445	10.00/20D	10.00/20	Con 6427	6–4 3/8 x 4 7/8	427	6.1	324	127–2600	7–2 7/8 x 11 1/8	Y	Cla 27VO	5	Tim 98415	2	H	6.53–8.53	Tim 35000	Ws4IA	604	....	c	TX	70	9 1/4 x 3 1/8 x 1/2	T
27	.....27VXS	.....	145	145	33700	8655	10.00/20D	11.00/22	Con R22	6–4 1/2 x 5 1/4	501	5.4	380	148–2400	7–2 7/8 x 14 1/2	Y	Cla 326VO	5	Tim 98415	2	H	6.53–8.53	Tim 36000	Ws4IA	646	....	c	TX	70	9 1/4 x 3 1/8 x 1/2	T
28	Sterling....HD115	.....	155	185	32000	10200	10.00/20D	11.00/20	Con R6513	6–4 1/4 x 5 1/2	513	5.9	400	156–2600	7–3 1/4 x 14 5/8	Y	Fu 5A62‡	15	Tim S-2000P	2F	R	** –7.84	Rim 26450W	Ws4IA	800	1286	a	TX	76	9x3 1/4 x 1/4	A
29	.....HC115	.....	155	185	32000	10100	10.00/20D	11.00/24	Wau 6SRKR	6–4 5/8 x 5 1/2	517	5.5	369	125–2250	7–3x13 1/4	Y	Fu 5A62‡	15	Own 137W	C2	R	7.40–9.38	Tim 26450W	Ws4IA	726	1240	a	TX	76	9x3 1/4 x 1/4	A
30	(D)....HC115H	.....	176	211	32000	12000	10.00/20D	11.00/24	Cum HB600	6–4 1/2 x 6	672	17.	500	150–1800	7–4 1/2 x 16 1/2	Y	Fu 4B86‡	12	Own 137W	C2	R	5.56–9.27	Tim 26450W	Ws4IA	726	1240	a	TX	88	9x3 1/4 x 1/4	A
31	.....HC144	.....	155	175	36000	10500	10.00/22D	12.00/24	Wau 6SRKR	6–4 5/8 x 5 1/2	517	5.5	369	125–2250	7–3x13 1/4	Y	Fu 5A62‡	15	Own 144W	C2	R	8.27–9.38	Tim 26450W	Ws4IA	786	1278	a	TX	76	9 1/4 x 3 5/8 x 3/4	A
32	.....HC145	.....	155	175	36000	10500	10.00/22D	12.00/24	Wau 6SRKR	6–4 5/8 x 5 1/2	517	5.5	369	125–2250	7–3x13 1/4	Y	Fu 5A62‡	15	Own 146W	C2	R	8.27–9.38	Tim 26450W	Ws4IA	786	1278	a	TX	76	9 1/4 x 3 5/8 x 3/4	A
33	.....HC147	.....	155	....	36000	10900	10.00/22D	12.00/24	Wau 6SRKR	6–4 5/8 x 5 1/2	517	5.5	369	125–2250	7–3x13 1/4	Y	Fu 5A62‡	15	Own 147W	C2	R	8.27–9.38	Tim 26450W	Ws4IA	786	1278	a	TX	76	9 1/4 x 3 5/8 x 3/4	A
34	.....HC156	.....	155	....	40000	11900	11.00/24D	12.00/24	Wau 6SRKR	6–4 5/8 x 5 1/2	517	5.5	369	125–2250	7–3x13 1/4	Y	Fu 5A62‡	15	Own 156W	C2	R	8.18–9.27	Tim 27454W	Ws4IA	786	1270	a	TX	76	9 1/4 x 3 5/8 x 3/4	A
35	.....HC165	.....	155	....	40000	12000	11.00/24D	12.00/24	Wau 6SRKR	6–4 5/8 x 5 1/2	517	5.5	369	125–2250	7–3x13 1/4	Y	Fu 5A62‡	15	Own 165W	C2	R	8.18–9.27	Tim 27454W	Ws4IA	786	1270	a	TX	76	9 1/4 x 3 5/8 x 3/4	A
36	(D)....HC165H	.....	165	175	40000	13500	11.00/24D	12.00/24	Cum HBD600	6–4 1/4 x 6	672	17.	500	150–1800	7–4 1/2 x 16 1/2	Y	Fu 4B86‡	12	Own 165W	C2	R	8.18–9.27	Tim 27454W	Ws4IA	786	1270	a	TX	76	9 1/4 x 3 5/8 x 3/4	A
37	(D)....HC175H	.....	165	175	45000	14000	12.00/24D	13.00/24	Cum HBD600	6–4 3/4 x 6	672	17.	500	150–1800	7–4 1/2 x 16 1/2	Y	Fu 4B86‡	12	Own 175W	C2	R	8.18–9.27	Tim 27454W	Ws4IA	786	1270	a	TX	77	9 1/4 x 3 5/8 x 3/4	A
	Four-Wheel-Drive																														
38	Corbitt(10)...F-18	4500	Opt	Opt	18500	6900	8.25/20D	9.00/20	Con B6371	6–4 1/4 x 4 3/4	371	5.7	280	100–2650	7–2 7/8 x 13 1/2	N	Fu 5A43	10	Wis 5002L	2F	H	6.00–8.21	Wis 501H1	L4IH	335	578	a	TD	Opt	9x2 1/2 x 1/4	D
39	(10)...F-35	8500	Opt	Opt	35500	12500	10.50/20D	11.25/24	Con 22R	6–4 1/4 x 5 1/4	501	5.9	400	150–2200	7–2 3/4 x 12 1/2	N	Fu 5A620	10	Wis 1737KW	2F	H	6.39–9.16	Wis F417KW	Ws4IA	701	976	a	TD	Opt	12 1/2 x 3 1/8 x 1/4	T
40	(10)...18FG	.....	Opt	Opt	18000	6600	8.25/20	9.00/20	Con M6330	6–4x4 3/8	330	6.0	240	102–2800	7–2 5/8 x 12 1/2	Y	Fu 5A43	5	Tim 56410H	SF	H	** –6.8	Tim F35H	L4IHV	335	578	a	TX	Opt	8 1/2 x 3 1/4 x 1/2	T
41	FWD.....HA	♦°3814	144	144	17000	†6800	8.25/20D	8.25/20	Wau BZ	6–4x4 1/4	320	5.9	223	95–2800	7–2 5/8 x 10 1/4	Y	Own H	5	Own H	SF	H	7.30–8.06	Own H	L4IHV	391	660	G	T4	79 3/4	9x3x 1/4	T
42	.....YU	♦°6300	150	150	27000	▲10570	11.00/20D	11.00/20	Wau SRKR	6–4 5/8 x 5 1/2	517	5.5	369	126–2400	7–3x10 5/8	Y	Own U	5	Own U	BF	H	6.72–8.84	Own U	L4IHV	496	867	G	T4	90	8 1/4 x 3x 1/2	C
43	.....M10	♦°10400	150	150	42000	▲14250	14.00/20S	14.00/20S	Her HXE	6–5 3/4 x 6	935	5.5	650	198–2000	7–3 1/2 x 16 3/4	Y	Own M	10	Wis 1910	2F	H	7.16–9.23	Wis 1910	Ws4IA	639	976	G	T4	90	10 1/4 x 3x 1/2	C
44	(D).....M10	♦°10915	150	150	42000	▲14250	14.00/20S	14.00/20S	Cum HB600	6–4 7/8 x 6	672	17.	500	150–1800	7–4 3/8 x 16 1/2	Y	Own M	10	Wis 1910	2F	H	7.16–9.23	Wis 1910	Ws4IA	639	976	G	T4	90	10 1/4 x 3x 1/2	C
45	Oshkosh....W-700	.....	150	204	30000	11500	11.00/20	12.00/20S	Her RXCD	6–4 5/8 x 5 1/2	529	5.4	380	128–2200	7–3x12 3/4	Y	Fu 5A620	5	Own W700	2F	H	** –6.6	Own W700	L4IH	630	975	G	TX	82	10 1/2 x 3x 3/4	TF
46	.....W-703	.....	150	204	30000	11700	11.00/20	12.00/20S	Her RXLD	6–4 3/4 x 5 1/4	558	5.4	405	141–2200	7–3 1/2 x 13 1/4	Y	Fu 5A620	5	Own W700	2F	H	** –6.6	Own W700	L4IH	630	975	G	TX	82	10 1/2 x 3x 3/4	TF
47	(D).....W-906	.....	158	190	38000	14400	12.00/20	14.00/20S	Cum HB600	6–4 1/4 x 6	672	...	500	150–1800	7–4 1/2 x 16	Y	Fu 4A86	4	Own W906	2F	H	** –6.2	Own W906	L4IH	630	975	G	TX	90	10 1/2 x 3x 3/4	TF
48	(D).....W-1400	.....	156	165	66000	22000	14.00/24	14.00/24	Cum NHBS600	6–5 1/2 x 6	743	...	785	255–1800	.....	Y	Fu 5A920	5	Own W1400	2F	H	** –8.8	Own W1400	L4IH	.....	.....	G	TX	108	12 5/8 x 3 1/4 ‖	L
49	Walter(c.f.)....FN	°°	126	150	20000	7500	9.00/20D	10.00/20S	Wau MZR	6–4 1/4 x 4 3/4	404	5.6	290	100–2500	7–2 5/8 x 12 1/2	Y	Own FN	6	Own FNB	2	H	6.0–8.0	Own FN	O4IA	470	670	G	FI	84	7x2 3/4 x 1/4	C
50	(c.f.)...FZM	°°	126	150	24000	8500	10.00/20D	12.00/20S	Wau MZR	6–4 1/4 x 4 3/4	404	5.6	290	100–2500	7–2 5/8 x 12 1/2	Y	Own FN	6	Own FMB	2	H	6.0–8.0	Own FJ	O4IA	470	670	G	FI	84	12x3 1/2 x 1/2	B
51	(c.f.)...FKM	°°	126	150	24000	9000	10.00/20D	12.00/20S	Wau SRKR	6–4 5/8 x 5 1/2	517	5.5	365	125–2200	7–3x13 7/8	Y	Own FJD	6	Own FMB	2	H	6.0–8.0	Own FJ	O4IA	470	670	G	FI	84	12x3 1/2 x 1/2	B
52	(c.f.)...FCK	°°	126	138	30000	10500	10.00/24D	11.00/24S	Wau SRKR	6–4 5/8 x 5 1/2	517	5.5	365	125–2200	7–3x13 7/8	Y	Own FC	6	Own FCB	2	H	7.5–9.0	Own FC	O4IA	585	890	D	FI	84	13x3 1/4 x 1/2	B
53	(c.f.)....FC	°°	138	162	32000	11000	11.00/24D	12.00/24S	Wau SRKR	6–4 5/8 x 5 1/2	517	5.5	365	125–2200	7–3x13 7/8	Y	Own FC	6	Own FCB	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	96	14x3 3/4 x 1/2	B
54	(c.f.)...FCR	°°	126	162	42000	12000	12.00/24D	12.00/24	Wau SRKR	6–4 5/8 x 5 1/2	517	5.5	365	125–2200	7–3x13 7/8	Y	Own FC	6	Own FCR	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	84	14x3 3/4 x 1/2	B
55	(c.f.)...FGB	°°	126	162	32000	12000	11.00/24D	12.00/24S	Wau 145GK	6–5 1/4 x 6	779	5.7	580	175–2000	7–3 1/2 x 17 3/4	Y	Own FA	6	Own FCB	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	84	14x3 3/4 x 1/2	B
56	(c.f.)...FGR	°°	126	162	42000	13000	12.00/24D	12.00/24	Wau 145GK	6–5 1/4 x 6	779	5.7	580	175–2000	7–3 1/2 x 17 3/4	Y	Own FA	6	Own FCR	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	89	14x3 3/4 x 1/2	B

† Main transmission; auxiliary, Brown-Lipe 6031, 3 forward speeds. ‡ Main transmission; auxiliary, Brown-Lipe 703, 3 forward speeds.
* For other than minimum standard WB–8 1/8 x 2 1/16 x 1/4. ● For other than minimum standard WB–10x3 1/16 x 1/4.
■ Auxiliary transmission for logging operation. ‖ Equipped with 3 speed auxiliary transmission.
♦ Includes price of cab. ° Prices subject to change without notice. °° Prices on application. ▲ Includes cab but not water or lubricants.

Prices subject to change without notice. ** Prices on application. ▲ Includes cab but not water or lubricants.

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	Forward Sp'ds	REAR AXLE: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME: Side Rail Dimensions	Type
	Six-Wheelers																														
	Wheels Driven																														
	Corbitt ▼																														
1	(10)35SB2....2F	4800	Opt	Opt	35000	9100	9.00/20D	9.75/22	Con B6405	6–4 1/16 x4 3/8	405	5.7	304	112–2600	7–2 7/8 x13 1/2	N	Fu 5A430	5	TSBT1500TW	SF	A	6.06–7.40	T 33000TW	Ws6IA	636	1094	a	TD	Opt	8 1/8 x3 1/2 x 1/4	T
2	(10)40SB2....2F	5800	Opt	Opt	40000	10700	9.75/20D	10.50/22	Con 21R	6–4 5/8 x4 3/4	428	5.0	325	125–2400	7–2 5/8 x13 1/4	N	Fu 5A620	5	T SBT252W	SF	A	4.55–7.80	T 35100TW	Ws6IA	668	1193	a	TD	Opt	8 1/8 x3 1/2 x 1/4	T
3	(10)40SB4....4R	8800	Opt	Opt	40000	11500	9.75/20D	10.50/22	Con 21R	6–4 5/8 x4 3/4	428	5.0	325	125–2400	4–2 5/8 x13 1/4	N	Fu 5A620	5	T SD252W	2F	A	5.90–8.40	T 35100TW	Ws6IA	668	1193	a	TD	Opt	8 1/8 x3 1/2 x 1/4	T
4	(10)40SD6.....6	8900	Opt	Opt	40000	11700	9.00/20D	9.75/22	Con 22R	6–4 1/2 x5 1/4	501	5.9	400	150–2200	7–2 5/8 x12 1/2	N	Fu 5A620	10	T SD252TW	2F	A	6.41–9.33	W F209TW	Ws6IA	685	1220	a	TD	Opt	12 3/4 x3 1/4 x 1/4	T
5	(10)50SD6.....6	12300	Opt	Opt	50000	14600	9.75/20D	10.50/22	Her HXC	6–5 1/4 x6	779	5.3	555	178–2100	7–3 1/2 x17	N	Spl 7551	10	T SD352W	2F	A	7.33–9.11	W F310W	Ws6IA	1084	1626	a	TD	Opt	12 1/2 x3 1/4 x 1/4	T
6	(10)54SD6.....6	16900	Opt	Opt	54000	15400	9.75/22D	10.50/22	Her HXC	6–5 1/4 x6	779	5.3	555	178–2100	7–3 1/2 x17	N	BL 7541	8	T SD452W	2F	A	7.33–9.11	W F311W	Ws6IA	1084	1625	a	TD	Opt	12 1/2 x3 1/4 x 1/4	T
7	Dart 1000.....4R	4050	161	268	24500	7540	7.00/20D	9.00/20	Her JXD	6–3 3/4 x4 1/4	320	5.6	204	84–2800	7–2 1/4 x10 1/4	Y	Fu 5A330	5	T SBD1000H	2F	T	5.93–8.30	T 31005H	L6IHV	537	930	a	TX	Opt	10x3x 1/4	L
8	1500.....4R	5200	161	268	30000	10140	7.50/20D	10.00/20	Wau 6MZR	6–4 1/4 x4 3/4	404	4.7	300	112–2500	7–2 5/8 x13 1/4	Y	Fu 5A430	5	T SBD1500	2F	T	5.41–9.03	T 33000H	L6IHV	603	1095	a	TX	Opt	10x3x 1/4	L
9	252.....4R	5600	152	268	33000	12794	7.50/20D	9.00/20	Wau 6MZR	6–4 1/4 x4 3/4	404	4.7	300	112–2500	7–2 5/8 x13 1/4	Y	Fu 5A430	10	T SD252H	2F	T	5.90–8.44	T 33000H	L6IHV	603	1095	a	TD	Opt	10x3x 1/4	B
10	352.....4R	9850	156	261	39000	15594	10.00/20D	11.00/24	Wau 8RKR	6–4 5/8 x5 1/8	517	4.9	410	125–2300	7–3x14	Y	Fu 5A620	12	T SD352W	2F	T	7.33–10.2	T 27450W	Ws6IA	874	1517	a	TD	Opt	10x3 1/2 x 1/4	B
11	Diamond T																														
12	806.....4R	.....	168	168	40000	.....	10.00/20	10.00/20	Her CBWXLC3	6–4 1/4 x4 3/4	404	5.9	300	114–2400	7–2 5/8 x13 1/4	Y	Spl 6241, 6031	12	T SW3000W	2F	R	**	–8.27	T 36020TW	Ws6IA	1082	1569	A	TX	72	10 1/4 x3 1/4 x 1/4	T
13	(D)910.....4R	.....	206	206	40000	.....	10.00/22	10.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 3/4	Y	Spl 7851, 703	15	T SW3000W	2F	R	**	–6.8	T 36020TW	Ws6IA	1082	1569	A	TD	90 1/2	10 1/4 x3 1/4 x 1/4	T
14	(D)910.....4R	.....	206	206	50000	.....	11.00/22	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 3/4	Y	Spl 7851, 703	15	T SD454W	2F	R	**	–8.15	T 36020TW	Ws6IA	1014	1517	A	TD	90 1/2	10 1/4 x3 1/4 x 1/4	T
15	F.W.D.....M6x6	***	243	276	52400	†19000	11.00/24D	11.00/24	Her HXE	6–5 3/4 x6	935	5.5	650	198–2000	7–3 1/2 x16 1/8	Y	Own M	10	Wis SD462	2F	H	**	–8.15	Wis F409	Ws6IA	1080	1680	G	T6	301	10 1/4 x3x 1 1/4	P
16	(D).....M6x6	***	276	276	52400	†19000	11.00/24D	11.00/24	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/4	Y	Own M	10	Wis SD462	2F	H	**	–8.15	Wis F409	Ws6IA	1080	1680	G	T6	324	10 1/4 x3x 1 1/4	P
17	Ken- (D)523.4R	.....	214	239	42000	13700	9.00/20D	11.00/24	Cum HB6	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	BL 7641	4	T SW3000	WF	R	5.40–10.2	Tim 36000	Ws4rIA	800	1194	a	TD	127	9 1/2 x3 1/4 x 1/4	C
18	worth(D)524.4R	.....	214	239	54000	14700	10.00/20D	11.00/24	Cum HB6	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	BL 7641	4	T SW452	WF	R	6.00–11.7	Tim 36000	Ws4rIA	980	1450	a	TD	127	9 1/2 x3 1/4 x 1/4	C
19	528.4R	.....	211	236	43000	12400	10.00/20D	11.00/24	Bud LO525	6–4 1/2 x5 1/2	525	5.5	385	135–2200	7–3x11 1/2	Y	Fu 5A620	5	T SW3000	WF	R	5.40–10.2	Tim 35100	Ws4rIA	800	1194	a	TD	127	9 1/2 x3 1/4 x 1/4	C
20	532.4R	.....	186½	234½	43000	11400	9.00/20D	11.00/34	Wau 6MZR	6–4 1/4 x4 3/4	404	5.9	300	112–2600	7–3x11 1/2	Y	Fu 5A620	5	T SW3000	WF	R	5.40–10.2	Tim 35100	Ws4rIA	800	1194	a	TD	102	7 1/2 x3 3/4 x 1/2	C
21	Peterbilt(D)344DT	11200	189	Opt	43000	16250	10.00/20D	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741	12	Tim SW3002W	WF	A	6.00–	8.5 T 27454W	Ws6IA	1212	1734	a	FD	106 1/2	10 3/4 x3 1/4 x 1/4	TL
22	(D).....344DT	11940	187	Opt	44000	17300	11.00/22D	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741	12	Tim SW452W	WF	A	6.00–10.2	T 27454W	Ws6IA	1000	1626	a	FD	106 1/2	10 3/4 x3 1/4 x 1/4	TL
23	(D).....354DT	12273	187	Opt	56000	17450	11.00/22D	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741	12	Tim SW452W	WF	A	6.00–10.2	T 27454W	Ws6IA	1000	1626	a	FD	106 1/2	10 3/4 x3 1/4 x 1/4	TL
24	Sterling																														
25	(D)HWS160H.....	185	245	42000	14500	10.00/20D	10.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741§	12	T SW3002PA	WF	L	**	–6.16	T 26450W	Ws6IA	1160	1878	a	TX	97	9x3 1/4 x 1/4	A
26	(D)RWS160H.....	219	232	42000	14500	10.00/20D	10.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741§	12	T SW3002PA	WF	L	**	–6.16	T 26450W	Ws6IA	1160	1878	a	TX	131	9x3 1/4 x 1/4	A
27	(D)HDS160H.....	197	232	42000	15000	10.00/20D	10.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741§	12	T SD353W	2F	L	**	–7.33	T 26450W	Ws6IA	1092	1818	a	TX	109	9x3 1/4 x 1/4	A
28	(D)HWS160HS.....	211	232	42000	15100	10.00/20D	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741§	12	T SW452W	WF	L	**	–6.00	T 26450W	Ws6IA	1092	1818	a	TX	123	9x3 1/4 x 1/4	A
29	HCS195.....	191	207	48000	14000	10.00/20D	11.00/22	Wau 140GK	6–4 1/2 x5 1/2	525	6.1	403	137–2250	7–3x16 1/2	Y	Fu 5A625	15	Own 195W	CD	R	**	–7.31	T 26450W	Ws6IA	1160	1978	a	TX	105	9 1/4 x3 5/8 x3 3/4	A
30	(D)HCS195H.....	197	211	48000	15000	10.00/20D	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741§	12	Own 195W	CD	R	**	–7.31	T 26450W	Ws6IA	1160	1978	a	TX	109	9 1/4 x3 5/8 x3 3/4	A
31	(D)HWS235H.....	195	211	52000	15500	11.00/20D	11.00/22	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741§	12	T SW452W	WF	L	**	–6.80	T 27454W	Ws6IA	1092	1810	a	TX	107	9 1/4 x3 5/8 x3 3/4	A
32	(D)HCS265H.....	178	195	60000	18500	11.00/24D	12.00/24	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Fu 4B86§	12	Own 265W	CD	R	10.76–15.0		T 27454W	Ws6IA	1160	2010	a	TX	90	9 1/4 x3 5/8 x3 3/4	A
33	(D)HCS297H.....	178	195	70000	20500	12.00/24D	13.00/24	Cum HB600	6–4 7/8 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Fu 4B86§	12	Own 330W	CD	R	10.76–15.0		T 27454W	Ws6IA	1280	2046	a	TX	90	9 1/4 x3 5/8 x3 3/4	A

** Prices quoted on application. † Includes cab but not water or lubricants. ° Prices subject to change without notice.
§ Equipped with 3 speed auxiliary transmission.

DRIVERS CAN SAVE GASOLINE

Drivers should be made to realize the necessity of saving gasoline, and should be taught the proper driving methods that will obtain the greatest fuel economy. Too often truck drivers make too many and too extensive stops at lunch counters. Making up time that is lost is not very conducive to gasoline economy. To make up for time lost, drivers resort to excessive speed and jack-rabbit starts in traffic. Both of these conditions use up gasoline at a fast rate. A governor will safeguard trucks from overspeeding, and the results will be better gasoline mileage. Over 200 fleet operators using governors on their equipment reported a saving of 13½ per cent in gasoline mileage. The installation of a recorder will tell the operator what the driver is doing with his time. It will record unnecessary stops, excessive speed and standing time. All of these factors affect gasoline economy and cost of operation.

Drivers should be instructed that in ascending a hill they should not wait until the last second to shift to a lower gear. Doing so not only loses speed and overtaxes the engine but also consumes more gasoline.

Some drivers have a habit of pumping the accelerator pedal while the truck is standing still at a traffic light or while parked with the engine running. This is a practice that results in excessive gasoline consumption, and should be avoided.

Here is a summarization of driver's faults which may waste gasoline:

1. Excessive use of choke causing a rich mixture and wastage of fuel.
2. Tampering with carburetor adjustments.
3. Failing to keep radiator covered in cold weather causing wastage when starting and when operating at low temperature.
4. Excess racing of engine.
5. Too rapid and too frequent acceleration and deceleration.
6. Use of low gears which could be avoided by skillful operation.
7. Idling engine too much at stops.
8. Failure to change gears at the proper time when ascending a hill.
9. Misappropriation of gasoline by various schemes.

A certain amount of idling is of course necessary in all fleet operations, but much gasoline can be saved by elimination of unnecessary idling. The amount of saving depends upon the type of service, with the door-to-door fleets gaining the most. One fleet recently eliminated idling and found not only a saving in gasoline but also better battery life, due to the fact that it is easier on the battery to make the necessary starts than it is to operate below a charging rate.

One fleet engaged in multi-stop operations found that it was no easy matter to induce drivers to cooperate by cutting the engine every time they stopped to make a delivery. After the installation of an automatic cut-off device on the vehicles, records showed a 25 per cent increase in gasoline economy.

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING
★

TRUCK LUBRICATION *Specifications*

The first step in every good PM and truck conservation program is proper lubrication. Here are specific recommendations for the correct oils and greases for the engine, transmission, rear axle, steering gear and universal joint as supplied by the various truck manufacturers for their makes and models.



ABBREVIATIONS

*—Fibre Grease for pin and bushing type; 160 for needle bearing type
**—Use 90EP below 30°; 140EP above 30° on all 2-speed axles
***—Use 160EP on 5-speed transmissions
†—10% kerosene in extremely low temperatures
††—Use 40 for high speed above 90°
§—Use 50 for high speed above 80°
ǂ—Use 40 in 672 and 707 Diesel engines

‡—Use 90EP with dual performance axles. Do not use EP in double reduction axles
a—Double reduction and 2-speed axles 110EP
b—Double reduction and 2-speed axles 90EP (140EP at temperatures above 100°)
A—Also front axle
C—Use 90EP in two-speed axles on Models 147, 154, 156
d—If equipped with steering column shift use 90
e—If equipped with steering column shift use 80

f—Under severe conditions use 140
EP—Extreme pressure
FG—Fibre Grease
H—Heavy duty
Hyp—Hypoid lubricant
Kero—Kerosene
M—Mild
N—Normal duty
(S)—Summer
SS—Cylinder oil sodium soap grease
(W)—Winter

TRUCK MAKE AND MODEL	ENGINE			TRANSMISSION		REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
	Viscosity and Temperature Range			Summer	Winter	Summer	Winter	Summer	Winter	
AUTOCAR—All Models (1935-39)	(S)40	(W)30		160	110	160	110	160	110	160
All Models (1940-44)	(S)30ǂ	(W)20		140	90	140	90	140	90	140-90
BANTAM 60	(S)30	(W)20		160	90	160	90			None
65	(S)30	(W)20		140	90	140	90			None
BROCKWAY 78, 83, 88, 92, 94, 112, 128, 146, 147 (1935-44)	N30 above 32°	H40 above 32°	30 below 32°	160	110	160(C)	110(C)	160	110	160
152, 153, 154, 158, 162, 166, 170X, 175X, 195X, 220X, 240X, 260X (1934-44)	N40 above 32°	H40 or 50 above 32°	30 below 32°	160	110	160(C)	110(C)	160	110	160
CHEVROLET—All Models (1935)	20 above 75° 20W@32° to 75°	10W@-15° to 32°	90% 10W, 10% Kero below -15°	160	90†	160	90†			160-90†
All Models (1936-37)	30 above 50° 20@30° to 80°	20W@10° to 80° 10W@10° to 45°	90% 10W, 10% Kero below 20°	160	90†	160	90†			160-90†
All Models (1938)	30 above 50° 20@30° to 80°	20W@10° to 30° 10W@10° to 10°	90% 10W, 10% Kero below -10°	90	90†	90 ¾-Ton 90EP	90 ¾-Ton 90EP			90
All Models (1939)	20 or 20W above 32°	20W@10° to 30° 10W@ -10° to 10°	90% 10W, 10% Kero below -10°	90	90	90 ¾-Ton 90EP	90 ¾-Ton 90EP			90
All Models (1940-44)	20 or 20W above 32°	20W@10° to 30° 10W@ -10° to 10°	90% 10W, 10% Kero below -10°	90	90	90Hyp	90Hyp			90
CORBITT—All Models (1934-38)	(S)40	(W)30		110	90	160	110	160	160	160
All Models (1939-44)	(S)40	(W)30		160	90	160	90	160	160	160
DIAMOND T—211, 211A, 220, 226, 227, 242, 243, 262, 311B, 311C, 312, 351B, 351C, 352, 411B, 412B, 511B, 512B (1934-35)	40 above 40°	30 below 40°		160	90	**160	** 90	160	160	160
311DR, 351DR, 411DR, 412DR, 511DR, 512DR (1935-36)	40 above 40°	30 below 40°		160	90	**110EP	**110EP	160	160	160
228, 412B, 512B, 80, 212A, 212B, 221, 244, 313, 320, 353, 360 (1936-37)	40 above 40°	30 below 40°		160	90	**160	** 90	160	160	160
412DR, 512DR (1936-37)	40 above 40°	30 below 40°		160	90	**110EP	**110EP	160	160	160
All Models (1938-39)	40 above 40°	30 below 40°		160	90	160EPa	90EPa	160EP	110EP	160EP
All Models (1940)	40 above 40°	30 below 40°		140	90	140EPb	90EPb	140EP	140EP	140EP
805, 805C, 806, 806C, 900 (1941-42)	40 above 40°	30 below 40°		140	90	140EPb	140EPb	140EP	140EP	140
All Other Models (1941-42)	40 above 40°	30 below 40°		140	90	140EPb	90EPb	140EP	140EP	140
DODGE—LC				140	90	140	90	90	90	FG
LE, LF, K-50V, K-60V, ME, MF, ML, MK, RE, RF, RL, RK, TE, TF, TL, TK, VL, VK				140EP	90EP	140EP	90EP	90	90	140
LG, LH, MG, MH, RG, RH				140EP	90EP	140EP	90EP	90	90	140
MC, RC, TC, TD-15, VC, VD, WC, WD	40 above 90°	20W@10° to 32°	90% 10W, 10% Kero below -10°	140	90	90Hyp	90Hyp	90	90	FG
MD, RD, TD-20, TD-21	30@32° to 90°	10W@ -10° to 10°		140	90	140EP	90EP	90	90	FG
TG, TH, VG, VH, VF, VM, WF, WFM, WG, WH, WGM, WHM				140EP	90EP	90Hyp	90Hyp	90	90	140
WL, WK, WLD, WKD				140EP	90EP	90EP	90EP	90	90	140
FEDERAL—15, 18, 20, 25, T10B, T10W (1935)	(S)30	(W)30		160	160	160	160			160
28, 29, 30, 40, 40DR, 50, C7, C8, X8, X8R (1935)	(S)30	(W)30		200	200	160	160			160
All (1936-37)	(S)50	(M)30	(W)20	160	90	160***	160***			160
		N20, H30@15° to 50°	N10, H20@ -20° to 15°	160	90	160	90			160

FEDERAL—15, 18, 20, 25, T10B, T10W (1935)	(S)30	(W)30		160	160	160	160			160
28, 29, 30, 40, 40DR, 50, C7, C8, X8, X8R (1935)	(S)30	(W)30		200	200	160	160			160
All (1936-37)	(S)50	(M)30	(W)20	160	160	160***	160***			160
9 (1938); 7 (1940)	N30, H40@50° to 110°	N20, H30@15° to 50°	N10, H20@ -20° to 15°	160	90	160	90			160
C7, C8, 40, 50, 40F, 50F, 62, 63, 65, 66 (1939)	N40, H50@50° to 110°	N30, H40@15° to 50°	20@ -20° to 15°	160	90	160	90			160
40, 50, 50H, 62, 63, 66, 62, 65, 66 (1940-42)	N40, H50@50° to 110°	N30, H40@-15° to 50°	N20, H30@ -20° to 15°	160	90	160	90			160
8, 10, 11, 11K, 12, 12K, 14, 14K, 15, 15K, 16, 17, 18, 18K, 20, 20K, 25, 25K, 29, 29H, 29K, 35, 45, 55, 75, 75K, 76, 77, 80, 80K, 85, 85K, 89, 89H, 89K, 90, 92, 94, 94H (1939-42)	N40, H50@50° to 110°	30@15° to 50°	20@ -20° to 15°	160	90	160	90			160
18M, 29M, 45M, 55M, 60M (1944)	N40, H50@50° to 110°	30@ 15° to 50°	20@ -20° to 15°	160	90	160	90			160
FORD—All (1932-38)	50 above 90° 40@30° to 110°	30@20° to 65°	20W above 10° 10W above -10°	140	90 or 110	140EP	90EP or 110EP	160	90 or 110	SS
All (1939-40)	40 above 90°	30 above 32°	90% 10W, 10%	140(d)	90(e)	140EP(M)	90EP(M)	90	90	SS
All (1941-44)	40 above 90°	30 above 32°	Kero below -10°	140(d)	90(a)	140EP(M)	90EP(M)	90	90	140
FWD—H5, T26, HA, T30 (1939-44)	(S)40	(MW)30	(W)20W	140	90	140EP	90EP	140EP	90EP	160
All Others (1936-44)	(S)50	(MW)40	(W)30	140	90	140EP	90EP	140EP	90EP	160
GENERAL MOTORS—T16, T18, T33, T33L, T43T, T23 (1934-35)	40 above 90°	30@32° to 90°	20W@32° to 0°		90 below 15°	160	110@			110
T46 (1934-35)	40 above 90°	30@32° to 90°	10W below 0°	160	110@	above	15° to 35°	160	160	160
T78, T78T, T75H, T75, T75T, T73, T73H (1934-35)	40 above 35°	30@32° to 35°			15° to 35°	35°	90 below 15°			
T14, T16, T16H, F16, F16H, T18, T18H, F18, F18H, T23, T23H, F23, F23H, T33, T33H, F33, F33H, T46, F46 (1936-37)	40	30@	20@30° to 70°	160	90 below 15°	160	110@	160	110	Same
T46, F46, T61, F61, T61H, F61H (1936-37)	above 80°	40° to 80°	20W@10° to 70°	above	110@	above	15° to 35°	and	and	as Rear
T14, T145, T15 (1938)	50 above 80°	40@50° to 80°	10W@10° to 45°	35°	15° to 35°	35°	90 below 15°	3%SS	3%SS	Axle
T155, T16, T16H, F16, F16H (1938)	20@30° to 110°	20W@10° to 70°		90		90		140 or	90 or	(S)140
T18, T18H, F18, F18H, T23, T23H, F23, F23H, T33, T33H, F33, F33H, T46, F46 (1938)	20@30° to 110°	20W@10° to 70°			90	140 or 160‡	90‡	160	110	or 160
T61, T61H, F61, F61H (1938)	30@40° to 110°††	20@40° to 70°	10W@ -10° to 45°	140 or		140 or		and	and	(W)190
AC-100, AC-150 (1939); AC-250, AC-300, AC-350, AC-400, AC-450, AF-200, AF-240, AF-241, AF-300, AF-310, AF-350, AF-400, AF-450 (1939-40)	40@50° to 110°§	20W@10° to 70°	90% 10W, 10%	160		160‡		3%SS	3%SS	or 110
AC-100, AC-150 (1940); CC-100, CC-150 (1941-42)	H30@40° to 110°		Kero below -10°							
CC-250, CC-260, CC-300, CC-350, CC-400, CC-450, CF-350, CF-400, CF-450 (1941-42)	N20@32° to 110°	20W@10° to 70°		90(f)	90	140‡	90‡	140	90	Same
	20@32° to 110°	20W@10° to 70°		90(f)	90	90Hyp	90Hyp	and	and	as
	H30@40° to 110°	20W@10° to 70°		90(f)	90	90(f)‡	90‡	3%SS	3%SS	Steering
AC-500, AC-550, AC-600, AC-650, AC-700, AC-800, AC-850, AF-500, AF-550, AF-600, AF-650, AF-700, AF-800, AF-850 (1939-42)	N20@32° to 110°									Gear
	H30@40° to 110°	20W@10° to 70°		140	90	140‡	90‡			
	N20@32° to 110°									
GRAMM—All Models (1935-42)	30 to 40 above; 32°	20 to 30@10° to 32°	10 to 20 below 10°	160	90	160	90	160	90	160
HUG—83W, 85W, D92U, D98, D99, D99S, 50-6	40@50° to 110°	30@15° to 50°	20W@ -20° to 16°	140	90	140	90	160	90	160
87W, 92U, 98, 44-4, 45-4, 99, 99S, 48-4, CB6P, CB7P, CB8P	50@50° to 110°	40@15° to 50°	30@ -20° to 15°	140	90	140	90	160	90	160
INDIANA—All Models (1934-40)	#30 above 32°	20W above 10°	10W above -10°	110	90	110EP	90EP	110	110	160
INTERNATIONAL—All Models	(S)N30 or 40	30@32° to 90°	10W@ -10° to 10°	140	90	140**	90**	140	90	140
	(S)H40 or 50	20W@10° to 32°								
KENWORTH—146, 146SW, 146SBT (1936-37)	(S)30	(W)20		140	90	140	90	140	140	140
241A, D241C, 346C (1936-37)	(S)50	(W)30		140	90	140	90	140	140	140
All Others (1936-37)	(S)40	(S)30		140	90	140	90	140	140	140
H30 (1938)	50 above 32°	30@0° to 32°		140	90	140	90	140	90	140
505 to 512, 514 to 516, 519 to 524, 543 to 546, 548 to 550, 552 (1938-42)	50 above 90°	40@60° to 90°	30@10° to 60°	140	90	140	90	140	90	140
			20W@ -10° to 10°							
513, 536, 537, 538 (1938-42)	40 above 75°	30@32° to 75°	20W@ below 32°	140	90	140	90	140	90	140
525 to 528, 539, 540, 541, 542 (1938-42)	40 above 50°	30@5° to 50°	20W@ -0° to 5°	140	90	140	90	140	90	140
529, 530, 531, 532 (1938-39)	40 above 50°	30@ 5° to 50°	20W@ -0° to 5°	140	90	140	90	140	140	140
529, 530, 531 (1942); 532 (1942-44)	50 above 75°	40@ 32° to 75°	30 below 32°	140	90	140	90	140	140	140
547 (1938-42)	50 above 30°	30@ below 0° to 32°		140	90	140	90	140	90	140
551, 553, 554, 555, 556 (1938-42)	50 above 75°	40@32° to 75°	30@ below 32°	140	90	140	90	140	90	140
528 (1944)	40 above 80°	30@ 32° to 80°	20 below 32°	140	90	140	90	140	140	140
523, 524, 548, 552 (1944)	30 above 80°	20@ 20° to 80°	10 below 20°	140	90	140	90	140	140	140
LA FRANCE REPUBLIC—C3, D4, E4 (1934-35)	40@32° to 90°	30@0° to 32°	20W@15° to 0°	140	90	140	90	140	140	140
F4, H6, K1, M4, MT4 (1934-38)	50@32° to 90°	30@0° to 32°	20W@15° to 0°	140	90	140	90	140	140	140
EH5B, EH5D, EH6B, EH6D (gasoline engines)	40@50° to 110°	30@15° to 50°	20W@ -20° to 15°	140	90	140	90	140	140	140
FH5B, FH5D, HH7, KH2, MH5 (gasoline engines)	50@50° to 110°	40@15° to 50°	30@ -12° to 15°	140	90	140	90	140	140	140
MARMON-HERRINGTON—Ford Conversions	(S)40	(M)30	(W)20 (10 below 10°)	140	90	140A	90A	90EP	90EP	140
All Other Models	(S)50	(M)40	(W)30	140	90	140A	90A	140	90	140
OSHKOSH—All Models (1936-44)	40 above 32°	30@0° to 32°	20 below 0°	140	90	250	140 *			140
PETERBILT										
All Models (1944)	50 above 90°	40@60° to 90°	30@10° to 60°	140	90	140	90	140	90	140
REO—All Models (1934-39)	30 above 18°	20W@0° to 18°	10W below 0°	140	90	140	90			140
All Gasoline Models (1940-44)	20 above 32°	10W below 32°		140	90	140	90			
All Diesel Models (1941-44)	40 above 50°	20@0° to 50°	20 below 0°	140	90	140	90			140
STERLING—FB50 De Luxe, FB60 De Luxe, FB70 De Luxe (1934-38)	40@32° to 90°	30@0° to 32°	20W@15° to 0°	140	90	140	90	140	140	140
FB80, FD90, FC90 (1934-38)	50@32° to 90°	30@0° to 32°	20W@0° to 15°	140	90	140	90	90	90	140
FD97, FD115, FC100, FC135, HC140, HC170 (1934-38)	50@32° to 90°	30@0° to 32°	20W@0° to 15°	140	90	140	90	140	140	140
FBT130 (1934-35)	40@32° to 90°	30@0° to 32°	20W@0° to 15°	140	90	140	90	90	90	140
FBT152, FDT180, FCT180, FDT200, FCT200, HCS210 (1934-38)	50@32° to 90°	30@0° to 32°	20W@0° to 15°	140	90	140	90	140	140	140
MB75, MD75, MS75, MB85, MD85 (1939-42) (gasoline)	40@50° to 110°	30@15° to 50°	20W@ -20° to 15°	140	90	140	90	110EP	110EP	140

CONTINUED ON PAGE 62

LUBRICATION SPECIFICATIONS

CONTINUED FROM PAGE 61

TRUCK MAKE AND MODEL	ENGINE Viscosity and Temperature Range			TRANSMISSION		REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
				Summer	Winter	Summer	Winter	Summer	Winter	
STERLING—Continued										
MB90, MD90, HC175, HC200, HC185, HC250, HCS255, HCS285, HCS300 (1939-42) (gas.)	50@50° to 110°	40@15° to 50°	30@20° to 15°	140	90	140	90	110EP	110EP	140
JB90, JD90, HD105, HD110, HD115, HD135, HD137, HD145, HD165, HD175, HC105, HC115, JC137, JC145, HC145, HC147, HC156, HC165, HBT128, HWS128, HDS128, JDS160, JWS160, HDS235, HWS235, HCS225 (1939-42) (gasoline)	50@50° to 110°	40@15° to 50°	30@20° to 15°	140	90	140	90	140	140	140
STEWART—49A	(S)30	(W)20		160	90	160	90	160	90	160
58A, 59A	(S)40	(W)30		160	110	160	110	160	110	160
36A	(S)50	(W)30		160	110	160	110	160	110	160
STUDEBAKER—T2, T4, T6, T8 (1934); IT200, IT600 (1935)	30 above 45°††	20@10° to 45°	10 below 10°	140	90	140	90			
W8 (1934); IW700, IW800 (1935)	50 above 32°	40@0° to 32°	30 below 0°	140	90	140	90			
2T2, 2M2, 2TB2 (1936)	30 above 45°††	20@10° to 45°	10 below 10°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
2W6, 2M6, 2NB6, 247 (1936)	40 above 32°	30@0° to 32°	20 below 10°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
2WB (1936)	50 above 32°	40@0° to 32°	20 below 0°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
J5 (1937)	30@45° to 90°††	20@0° to 45°	10 below 0°	90	90	EP	EP			
J15, J15B, J15M, K15, K15B, K15M (1937-40)	30 above 45°††	20@0° to 45°	10 below 0°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
J20, J20M, J20MB, J25, J25M, J25MB, K20, K20M, K20MB, K25, K25M, K25MB (1937-40)	40 above 32°	30@0° to 32°	20 below 0°	140 below 32°	90 below 32°	140 above 32°	90 below 32°			
J30, J30M, K30, K30M (1937-40)	50 above 32°	40@0° to 32°	30 below 0°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
K5 (1938); L5 (1939)	30 above 32°	20@0° to 32°	10 below -10°	90	90	EP	EP			
K10 (1938-40)	30 above 45°	20@0° to 45°	10 below 0°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
Coupe-Express (1941-42)	40 above 90°	20@10° to 32°	10 below 10°	140 above 32°	90 below 32°	90EP	90EP			
All Other Models (1941-42)	30@32° to 90°	20@10° to 32°	10 below 10°	140 above 32°	90 below 32°	140 above 32°	90 below 32°			
WALTER—All Models	(S)50	(W)30		140	90	140	90	140	90	
WHITE—All Models	40 above 90°	30 above 32°	20 above 10° 10 above -10°	140	90	140	90			140
WILLYS—77 (1933-36)	30@40° to 80°	20@15° to 40°	10@ -15° to 15°	190 to 210	150 to 170	190 to 210	150 to 170	190 to 210	150 to 170	FG
77, 38, 48 (1937-39)	30 or 20W above 32°	10@ above -10°	90% 10, 10%	90	80	90	80	190 to 210	150 to 170	FG
440, 441, 441P, 442, 442P	30 above 90° 20@32° to 90°	20@10° to 32° 10@ -10° to 10°	Kero below -10°	90	80	90	80	250	250	FG

ABBREVIATIONS

*—Fibre Grease for pin and bushing type; 160 for needle bearing type
**—Use 90EP below 30°; 140EP above 30° on all 2-speed axles
***—Use 160EP on 5-speed transmissions
†—10% kerosene in extremely low temperatures
††—Use 40 for high speed above 90°
§—Use 50 for high speed above 80°
‡—Use 40 in 672 and 707 Diesel engines
‡—Use 90EP with dual performance axles. Do not use EP in double reduction axles
a—Double reduction and 2-speed axles 110EP
b—Double reduction and 2-speed axles 90EP (140EP at temperatures above 100°)
A—Also front axle
C—Use 90EP in two-speed axles on Models 147, 154, 156
d—If equipped with steering column shift use 90
e—If equipped with steering column shift use 80
f—Under severe conditions use 140
EP—Extreme pressure
FG—Fibre Grease
H—Heavy duty
Hyp—Hypoid lubricant
Kero—Kerosene
M—Mild
N—Normal duty
(S)—Summer
SS—Cylinder oil sodium soap grease
(W)—Winter

PREVENTIVE OPERATION OF MOTOR TRUCKS

Preventive operation, as well as preventive maintenance, will be needed, according to the ODT Maintenance Section, in order to enable truck fleets to do their part during the balance of the war.

Preventive operation means the elimination of all things which will tend to reduce the life of a truck. The chief points of preventive operation are:

Eliminate unnecessary use of a vehicle.

Reduce dead-head mileage.

Do not exceed the victory speed limit.

Do not load the truck so that tires on any one wheel or axle are overloaded.

The driver needs to practise preventive operation in order to eliminate premature failures. Parts made of the NE, or National Emergency steels, such as axle shafts and transmission gears have tensile strength equal to the original alloys, but the shock strength of these NE steels is somewhat reduced, says the ODT. With careful operation and correct loading, the strength of such parts is ample. But they will not stand overloads and abuse.

Synthetic rubber tires require very careful operation and maintenance. Experience with heavy-duty synthetic tires to date has shown that they are sensitive to air pressure, bruises and overheating caused either by overloading or overspeed.

Engines now in use can be operated without damage on the motor fuels now available if necessary adjustments are made. The driver must be careful not to cause excessive detonation by his method of operation. When detonation develops, either the speed should be reduced or the truck should be shifted into a lower gear.

As his further share in preventive operation, the driver daily should make the following checks before starting the day's work:

1. Check tire inflation and inspect tires for cuts, damage or signs that wheels are out of line.

2. Check radiator for proper amount of water or anti-freeze, and fill if necessary.

3. Check oil level in engine, fill as necessary.

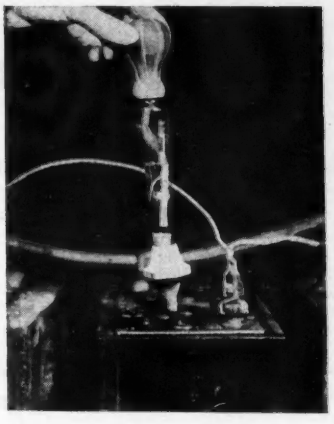
4. Check these items for correct operation: windshield wiper, horn, lights, brakes, engine oil pressure, generator charging rate and engine temperature gage.

At the end of the day's work, or before if necessary, the driver should report any mechanical difficulties or defects.

BATTERY DATA

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING



BATTERY TYPE AND CAPACITY BY TRUCK MODELS

TRUCK MAKE AND MODEL	BATTERY		
	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
AUTOCAR			
A, B, UA, UB, C10, U10, C20, U20, C30, U30	118	15	P
RM, RL, D, UD, UDD	135	17	P
DF, N, NF, DH, DS	152	19	P
UDF, UN, UNF, US	152	19	P
UT, 5UTR, 6X2UT, T, C, 6X2UT	135*	17	P
RMT, 1TR, 6X2RL, 1UTR, 6X2UD	118*	15	P
2TR, 3TR, 4TR	135*	17	P
2UTR, 3UTR, 4UTR	135*	17	P
RLD, DP, C40, C40D, U40, U40D	135	17	P
6X2DF, 6X2NF, 6X4DF	135*	17	P
6X2T, 6X4TO, 6X4TD, 6X4TC, 6X4S	135*	17	P
6X2UN, 6X2UNF, 6X4UTO, 6X4UTD	135*	17	P
4X4DF, 4X4N, 4X4NF	152	19	P
C10, U10, C20, U20, C30, U30	118	15	P
C10T, U10T, C20T, U20T, C30T, U30T	101*	13	P
DC10, DC10T, DU10, DU10T, DC20, DC20T, DU20, DU20T	135**	17	P
C40, U40, C40D, U40D, C50D	135	17	P
C40T, U40T, C4062, C4064, U4064, C50T	118*	15	P
DC50T	237*	25	P
C60, U60, U60D, C70, U70, C70D, C7044, 380, U80, C80D, U80D	152	19	P
C60T, U60T, C70T, U70T, C7062, U7062, C7064, U7064, C80T, U80T, C8044, C8062, U8062, C8064, U8064, C90, U90, C90T, U90T, C90D, U90D, C9044, C9062, U9062, C9064, U9064	135*	17	P
DC100T, DU100T, DC100D, DC10044, DC10062, DU10062, DC10064, DU10064	152**	19	P
BANTAM			
60, 65	67	11	P
BROCKWAY			
78, 83, 88, 92, 94	118	15	P
112, 128, 146, 147, 152, 153, 154, 156, 162, 166	135	17	P
160X, 165X	135	17	P
170X, 175X, 195X, 220X	152	19	P
240X, 260X	118*	15	P
CHEVROLET			
All Trucks (1935-36)	90	15	N
(1937-38)	94	15	N
(1939)	95	15	N
(1940-42)	100	15	N
CORBITT			
12B, 13B, F12, 17B, F14, 14BT, 21B	101	13	P
26D, F23, F27, F35, 18BT, 22BT, 27BT	101	13	P
F18	101	17	P
DIAMOND T			
201 (Stud.)	95	15	P
201 (Deluxe), 201C, 306, 306SC, 404, 404C, 404SC	100	15	P
406	110	17	P
509, 509C, 612, 612C, 614, 614C	118	15	P
702, 702C, 805, 805C, 806, 806C	152	19	P
900	200	25	P
DODGE			
RC, RD, TC, TD, VC, WC Series	90	13	P
RE, VD, TE, WD Series	95	15	P
RF, VF, WF, WFM Series	105	15	P
RG, RH, TG, TH, VG, VH, WG, WH, WGM, WHM Series	119	15	P
RL, RK, RO, RP, TL, TK, VL, VK, WL, WK Series	136	17	P
TLD, TKD, VLD, VKD, WLD, WKD	153**	19	P
WC (1942)	90	13	P
DODGE—(Cont.)			
WD (1942)	95	15	P
WF, WFM (1942)	105	15	P
WG, WH, WGM, WHM (1942)	119	15	P
WL, WK (1942)	136	17	P
WLD, WKD (1942)	136**	17	P
FEDERAL			
7, 8, 9, 10, 11, 11H, 12, 14	100	13	P
15, 15H, 18H, 20H, 75	100	13	P
16, 17, 18, 20, 76, 77, 80	118	15	P
18, 20 (Late 1941)	135	17	P
25, 29, 25H, 29H, 35, 45	135	17	P
40, 40DR, 50, 50H	135	17	P
62, 63, 65, 66 (12-volt)	135*	17	P
C7, C7W, C8, C8W, C8H	135	17	P
75, 80, 75H, 80H	100	13	P
85, 89, 85H, 89H, 90, 92, 94	135	17	P
FORD			
(1939)	100	17	P
(1940-42)	120	17	P
FWD			
HS, HG, HM, SUA, SU, YU, HA, HR, M6, CU, CUA, T26, T30, T32, MJ6, M7, M10, MJ6X6, M6X6	153	19	P
GENERAL MOTORS			
AC100 to 450 (1940)	100	15	P
AF300 to 450 (1940)	100	15	P
AF240 (1941-42)	86	13	P
CC100 to 450 (1941-42)	125	19	P
CF300 to 450 (1941-42)	100	15	P
AC500 and up (1939-42)	115	17	P
AF500 and up (1939-42)	115	17	P
ADC 500 and up (12-volt)	280	25	P
ADF500 and up (12-volt)	200*	25	P
HUG			
98, 99, 99S, 44-4, 45-4, 46-4	153	19	N
D42, D43, D43L, D98, D99, D99S, 42W, 87W, CB8P	153	19	N
15W, 19W, 83W, 85W, CB6P, CB7P	105	19	N
INTERNATIONAL			
K1, K2, K3, K4, KS4, K5, KS5, K5COE, KS5COE (1941-42)	105	15	P
K6, KS6, K6T, KS6T, K6F, K7, KS7, K7COE, KS7COE (1941-42)	127	15	P
K8, KS8, K8COE, KS8COE, K8T, KR8, KR8COE, KR8T, KS8T, K8F, K10, KR10, KS10, KR11, KS11, KR11COE, KS11COE, KR11T, KS11T, K11F, KR12F (1941-42)	145	17	P
KENWORTH			
505 to 512, 514, 515, 516, 519 to 524, 548, 550 to 556 (1941-42)	150*	21	P
513, 533 to 540 (1941-42)	135	19	P
525 to 528, 541 to 546 (1941-42)	150	21	P
LA FRANCE-REPUBLIC			
All Models (1941-42)	158	23	P
MARMON HERRINGTON			
E, F, FF, H, HH, J, JJ, LD, LLD, M, MM, OT, OOT Series Models	100	17	P
C10-4, C20-4, C30-4, DSD100-4, DSD-200-4, DSD200-6, DSD300-4, DSD-300-6	120	17	P
C40-4, C50-4, DSD400-4, DSD400-6, DSD500-4, DSD500-6	141	17	P
MARMON-HERRINGTON—(Cont.)			
C55-4, C55DR-4, C60-4, C60-6, C70-4, C70-6, DSD500-4, DSD550-DR4, DSD600-4, DSD600-6, DSD700-4, DSD700-6	116	15	P
C80-4, C80-6, DSD800-4, DSD800-6	120	13	P
DSD900-4, DSD900-6, DSD1000-4, DSD1000-6	138	15	P
OSHKOSH			
W900	204	25	P
All Other Models	153	17	P
REO			
450, 450L, 475, 475L, 650, 650L, 675, 675L, 1A4, 1C4	90	13	N
1A4H, 1C4H, 1B7M, 2B7M	90	13	N
1B4, 1D4, 1B4H, 1D4H, 2B4, 2D4, 2B4, 2D4, 2J5, 2H5, 1L5	90	13	N
2LM7, 2LMH7	240	25	N
	140	15	N
2L4, 2L4H, 2LC4	240	25	N
	140	15	N
19, 20	90	13	N
21, 22, 23	136	17	N
4D19	204	25	P
6D19, D20	272*	33	P
23H, 25	170	21	N
27	133	15	N
STERLING			
MB75, MB85, MC87, MB90, MC96, JB90, HD105, HD110, JD135, JD137, HD145, HD165, HC105, HC115, JC115, JC137, HC144, JC145, HC145, HC147, HC156, HC165	158	23	P
HD175, HC175	170*	21	P
STEWART			
40A, 60A, 61A, 62A, 47A, 50A	117	15	P
38A, 49A, 51A, 58A, 59A	133	17	P
STUDEBAKER			
K5, L5, K10, K15, K15M	105	15	P
K20, K20M, K25, K25M	136	17	P
K20D	136**	17	P
K30, K30M	153	19	P
All Models (1941-42)	90	13	P
WALTER			
FN, FM (1940-42)	160	17	P
FKM, FC, FCK, FB, FBR (1940-42)	120*	15	P
FXB, FXR (1940-42)	160*	17	P
WHITE			
700, 704, 510	100	15	P
704K, 708, 709, 710, 718, 750, 750T, 800, 802	119	15	P
750T	136	17	P
720, 720T, 722, 820 (12-volt)	120	13	P
805, 809, 810, 812, 818	117	15	P
WA14, WA18, WA20, WA22, WA26, WA34, WA114, WA118, WA120, WA122, WA126, WA134, WA2064, WA2264	119	15	P
White Horse	120	17	P
WA16	120	13	P
WILLYS			
All Models	80	13	N

ABBREVIATIONS:
* Each for 2 units. ** Each for 4 units.
N—Negative. P—Positive.

Italic figure, thus (30) denotes limit now effective by proclamation or order of the Governor or other State Official.

STATE SIZE AND W

STATE	SIZE-RESTRICTIONS (K)							GROSS WEIGHT (LEGAL LIMITS)		(See NOTE) PRACTICAL GROSS WEIGHT LIMITS (K) (In thousands of pounds) (Where No Distinction is Made Between Pneumatic and Solid Tire Limits, Below Limits Apply to Both)												
	Width (Inches)	Height (Feet)	LENGTH: Single Unit	LENGTH: Tractor Semi-Trailer	LENGTH: Other Combinations	Number of Trailers (Semi-Trailer = ½)	Minimum Tandem Axle Spacing	Per Inch of Tire Width	Per Axle (1000 lb.)	4-Wheel Single Unit	6-Wheel Single Unit	4-Wh. Tractor 2-Wh. Semi-T.	4-Wh. Tractor 4-Wh. Semi-T.	6-Wh. Tractor 4-Wh. Semi-T.	4-Wh. Truck 4-Wh. Trailer	4-Wh. Truck 6-Wh. Trailer	6-Wh. Truck 4-Wh. Trailer	6-Wh. Truck 6-Wh. Trailer	4-Wh. Tractor 2-Wh. Semi-T. 4-Wh. Trailer	4-Wh. Tractor 4-Wh. Semi-T. 4-Wh. Trailer	6-Wh. Tractor 4-Wh. Semi-T. 6-Wh. Trailer
TVX Ala.	96	12½	35	45	NP	½	NS	600	18 l	46.9	46.9	53.9	53.9	53.9	NP	NP	NP	NP	NP	NP	NP
Ariz.	96	14½	35	65	65	1½	NS	700	18	22	34	40	44	56	44	56	56	68	62	66	90
VXZ Ark.	96	12½	35	45	45	1 or ½	40	Table	18	36	46.9-IW	53.9-IW	53.9-IW	53.9-IW	53.9-IW	53.9-IW	53.9-IW	53.9-IW	NP	NP	NP
XZ Cal.	96	13½	35	60	60	NR	NS	NS-P 600-S	18	36	53.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6
X Colo.	96 102 b	12½	35	40	50	1½	40	NS-P 500-S	18-I 16-J	*30* 24	34	50.4	*58* 50.4	*58* 50.4	48	58	58	63	63	63	63
TZ Conn.	96 c 102	12½	40	40	NP	½	NS	NS-P 800-S	NS(Z)	32-P 26-S	*45* 40	*45* 40	*45* 40	*45* 40	NP	NP	NP	NP	NP	NP	NP
Z Del.	96	12½	35	45	45	1½	NS	*40* 700	18-P 16-S	*30* 26	*40* 36	40	40	40	48-P 44-S	48-P 44-S	58-P 44-S	58-P 44-S	62-P 60-S	62-P 60-S	62-P 60-S
VZ D. C.	108 a 96	12½	33	33	50	NR	NS	880	18	30	40	40	40	40	40	40	40	40	NP	NP	NP
Z Fla.	84	12	35	45	45	1 or ½	NS	550	18	*30PQ* 16-PQ	*40PQ* 16-PQ	*40PQ* 19-PQ	40-PQ	40-PQ	40-PQ	40-PQ	40-PQ	40-PQ	NP	NP	NP
X Ga.	96	13½	35	45	45	1 or ½	40	NS	18-I 16-J	36	46.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
V[1] Idaho	96	14	35	45	65	1½	NS	800 o	18	28	42	42	56	60	56	68	68	68	68	68	68
TV[1]z Illinois	96	NS	35	35	40	1½	40	800	16	24 E	40	40	40	40	56	56	72	72	72	72	72
X Indiana g	96	*12½* 12	36	*45* 40	*45* 40	1½	40	800	18	36	*51* 47.6	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4	*57.7* 50.4
TX Iowa	96	*12½* 12	*35* 33	45	NP	½	40	NS	*18* 16	*46.9* 32	*46.9* 35.2	*53.9* 40.6	*53.9* 40.6	*53.9* 40.6	NP	NP	NP	NP	NP	NP	NP
X Kansas	96	12½	35	35	45	1 or ½	40	NS	18-I 16-J	24 28 t	34	46.9	46.9	46.9	48	58	58	63	NP	NP	NP
TZ Ky.	96	12½	26½	33	NP	½	NS	600	NR	28	28	28	28	28	NP	NP	NP	NP	NP	NP	NP
Z La.	96	12½	35	45	45	1 or ½	40	Table	18-I 16-J	18	36	36	50	64	54	54	NP	NP	NP	NP	NP
Maine	96	12½	*45* 40 h	*45* 40 h	*45* 40 h	1 or ½	NS	600	22-G	30	40	40	40	40	40	40	40	40	NP	NP	NP
X Md.	96	NR	55	55	55	NR	NS	600	22.4 18-e	44.8	58.4	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
Mass.	96 102 b	NR	33 35 j	40	NS	T 1 or ½	NS	800	NR	30-P 28-S	40	40	40	40	*41* 31	*41* 31	41	41	NP	NP	NP
p Mich.	96 102 b	12½	35	50	50	1½	NS	Table	18-P 16-S	36-PW 32-S	44-PW 39.2-S	54-PW 48-S	62-PW 55.2-S	70-PW 62.4-S	72-PW 64-S	80-PW 71.2-S	80-PW 71.2-S	88-PW 78.4-S	90-PW 80-S	98-PW 87.2-S	114-PW 101.6-S
TZX Minn.	96	12½	40	45	45	1 or ½	NS	NR	18-P u 10.8-S	50.4	50.4	53.9	53.9	53.9	53.9	53.9	53.9	53.9	NP	NP	NP
Miss.	96	12½	40	40	55	1 or ½	40	NS	18-I 16-J	22	40	40	40	40	40	40	40	40	NP	NP	NP
ZX Mo.	96	12½	35	45	45	1 or ½	NS	600	18	46.9	46.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	NP	NP	NP
XV[1] Mont.	96 102 b	13½	35	60	60	1 or ½	40	600	18-P 16-S	36-P 32-S	*50.2* 46.9	*69* 64.4	*69* 64.4	*69* 64.4	*69* 64.4	*69* 64.4	*69* 64.4	*69* 64.4	NP	NP	NP
TX Neb.	96	*12½* 12	35	42	45	1½	NS	NS	*18* 16	32-W	32	*55.5* 40	*55.5* 40	*55.5* 40	*57.7* 48	*57.7* 48	*57.7* 48	*57.7* 48	*57.7* 48	*57.7* 48	*57.7* 48
Nev.	NR	NR	NR	NR	NR	NR	42	600	NR	26	38	38	38	38	50	63	63	76	63	63	76
N. H.	96	NR	33	45	45	NR	NS	800	18	30	40	40	40	40	40	40	40	40	40	40	40
N. J.	96	12½	35	45	50	1 or ½	NS	Table	Table	30	40	60	60	60	60	60	60	60	NP	NP	NP
V[1]X N. M.	96 100 b	12½	35	60	60	1 or ½	40	700-P 500-S	18	36	50.2	69	69	69	69	69	69	69	NP	NP	NP
X N. Y.	96 100 b	13	35	50	50	1 or ½	46	800-P 640-S	22.4-P 17.9-S	36-P 28.8-S	44-P 35.2-S	61.5-P 49.2-S	61.5-P 49.2-S	61.5-P 49.2-S	61.5-P 49.2-S	61.5-P 49.2-S	61.5-P 49.2-S	61.5-P 49.2-S	NP	NP	NP
N. C.	96	12½	35	45i	45i	1 or ½	NS	600	18-1 16-J	26 L	*42* 40	*42* 40	*42* 40	*42* 40	*42* 40	*42* 40	*42* 40	*42* 40	NP	NP	NP

WEIGHT LIMITS

Italic figure, thus (30) denotes limit now effective by proclamation or order of the Governor or other State Official.

STATE	SIZE RESTRICTIONS (K)							GROSS WEIGHT (LEGAL LIMITS)		(See NOTE) PRACTICAL GROSS WEIGHT LIMITS (K) (In thousands of pounds) (Where No Distinction is Made Between Pneumatic and Solid Tire Limits, Below Limits Apply to Both)										
	Width (Inches)	Height (Feet)	LENGTH: Single Unit	LENGTH: Tractor Semi-Trailer	LENGTH: Other Combinations	Number of Trailers (Semi-Trailer = ½)	Minimum Tandem Axle Spacing	Per Inch of Tire Width	Per Axle (1000 lb.)	4-Wheel Single Unit	6-Wheel Single Unit	4-Wh. Tractor 2-Wh. Semi-T.	4-Wh. Tractor 4-Wh. Semi-T.	6-Wh. Tractor 4-Wh. Semi-T.	4-Wh. Truck 4-Wh. Trailer	4-Wh. Truck 6-Wh. Trailer	6-Wh. Truck 4-Wh. Trailer	6-Wh. Truck 6-Wh. Trailer	4-Wh. Tractor 2-Wh. Semi-T. 4-Wh. Trailer	4-Wh. Tractor 4-Wh. Semi-T. 4-Wh. Trailer	6-Wh. Tractor 4-Wh. Semi-T. 6-Wh. Trailer
TX N. D.	96	12½	35	40	40	1 or ½	40	550	18 14-f	35	35	40	40	40	40	40	40	40	NP	NP	NP
XZ Ohio	96	12½	35	45	60	NR	NS	650	18-P 16-S	36-P 32-S	50.2-P 40.2-S	57.7-P 46.2-S	57.7-P 46.2-S	57.7-P 46.2-S	69-P 55.2-S	69-P 55.2-S	69-P 55.2-S	69-P 55.2-S	69-P 55.2-S	69-P 55.2-S	69-P 55.2-S
Okla.	96	12½	45	45	45	1½	NS	600	NS	24	24	47	47	47	47	47	47	47	47	47	47
VXZ Ore.	96	*12½* 11	35	50	*60* 50	NR	40	600 q	18 w 16 x	*36* 34	46.9 w 46.9 x	*61.5* 54	*61.5* 54	*69* 54	*69* 54	*69* 54	*69* 54	*69* 54	*69* 54	*69* 54	*69* 54
Z Pa.	96	12½	33	45	50	1 or ½	36	800	20	30 H	40 H	45	45	45	80	70	70	80	NP	NP	NP
R. I.	102	12½	35	45	45	1 or ½	NS	800	22.4	32-P 28-S	40	46	46	46	64-P 56-S	72-P 68-S	72-P 68-S	80	NP	NP	NP
X S. C.	96	12½	35	45	45	1 or ½	40	NR	18-I 16-J	25	25	40	40	40	40	40	40	40	NP	NP	NP
X S. D.	96	13	35	45	45	1 or ½	40	600	18-I 16-J	30	30	40	40	40	40	40	40	40	NP	NP	NP
Tenn.	96	12	27	35	35	1 or ½	NS	NS	16	30	30	30	30	30	30	30	30	30	NP	NP	NP
X Tex.	96	12½	35	45	45	1 or ½	40	650-I 600-J	18-I 16-J	36	38	38	38	38	38	38	38	38	NP	NP	NP
XZ Utah	96	14½	45	60	60	1 or ½	NS	800 o	18-P 13.5-S	36-P 27-SW	53.9-P 40.4-S	64.4-P 48.3-S	64.4-P 48.3-S	61.4-P 48.3-S	64.4-P 48.3-S	64.4-P 48.3-S	64.4 48.3-S	64.4-P 48.3-S	NP	NP	NP
Z Vt.	96	*12½* 12	50	50	50	1 or ½	40	600	NR	*30* M 16	40 M 16	40 M 16	40 M 16	40 M 16	40 M 16	40 M 16	40 M 16	40 M 16	NP	NP	NP
VZ Va.	96	12½	33 g	45	45	1 or ½	40	650	*18* 16	*32* 24	*40* 35	*40* 35	*40* 35	*40* 35	*40* 35	*40* 35	*40* 35	*40* 35	NP	NP	NP
X Wash.	96	12½	35	60	60	1 or ½	NS	500	18	128	34	69	69	69	69	69	69	69	NP	NP	NP
W¹XZ W. Va.	96	12½	35	45	45	NR	40	NS	18-PB 14-SB	38-PWB 28-SB	54-PWB 42-SB	54-PWB 42-SB	72-PWB 56-SB	90-PWB 70-SB	72-PWB 56-SB	90-PWB 70-SB	90-PWB 70-SB	102.4PB 81.9-SB	90-PWB 70-SB	102.4PB 81.9-SB	102.4PB 81.9-SB
VZ Wisc.	96 d	12½	33 35 j	45	45	1 or ½	40	800	19-C 12-D	30-Ck 15-D	40-C 22.5-D	49-C 27-D	60-C 30-D	70-C 37.5-D	60-C 30-D	70-C 37.5-D	70-C 37.5-D	72-C 45-D	NP	NP	NP
X Wyo.	96	12½	40	45	45	NR	NS	800	18	36	43.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2

Italic figure denotes limit now effective by proclamation or order of the Governor or other State Official.

||—See explanation in Note at right.

a—If registered before 1932.

b—At rear tires, when solids changed to pneumatics.

c—Regulated "for hire" vehicles.

d—104 inches for urban buses.

e—If less than 50 inches apart

f—If less than 8 feet apart.

g—Buses allowed 35 ft. length.

h—Trailers are limited to 26 ft.

i—Exclusive of bumpers.

j—Buses permitted 35 feet.

k—Special limitations, vehicles with 2 driving axles. On other than high type surfaced highways.

o—Graduated according to tire width.

p—13,000 lbs. on tandem axles 3 ft. 6 in. apart; applies June 1 to February 28; differs with season.

q—500 lbs. when total tires under 30 inches wide.

t—Dual tires 8 inches wide or over.

u—12,000 lbs. when axles spaced under 8 feet apart.

w—Permissible weight on paved highways.

x—Permissible weight on unpaved highways.

z—City of Clinton, Ill., limits truck gross weight to 12,000 lbs.

Table—There is a table of axle weights based upon tire widths,
NP—Not permitted
NR—No restriction.
NS—Not specified.
P—Pneumatic tires.
PL—Pay load.
S—Solid tires.

B—In "Industrial Areas"—varies for different "areas."

C—Permissible on "Class A" highways.

D—Permissible on "Class B" highways.

E—Trailers permitted 32,000 lbs.

G—Axles less than 10 ft. apart limited to 16,000 lbs.

H—Maximum shown — gross depends on chassis weight.

I—Permissible on balloon tires.

J—Permissible on other than balloon tires.

K—May exceed on designated highways with permit.

L—Buses permitted 22,500 maximum net weight.

M—On State highways.

N—40,000 lbs. with pneumatic tires, 3 axles, 2 hubs and brakes on each hub.

Q—Different limits for "for hire" vehicles.

T—With the following exceptions full trailers are permitted the same gross weight as other single units:—
Ala., Iowa, Conn., Ky.—Full trailers prohibited.
Ill—All trailers limited to 32,000 lbs. gross.
Mass.—Trailers limited to 1,000 lbs. capacity.
Minn.—Trailers limited to 6,000 lbs. gross.
Nebr.—All trailers limited to 16,000 lbs. gross.
N. Dak.—Trailers, 35,000 lbs.
Weight of trailers is limited by axle limitations and formula, in states determining gross weight by formula.

V—Solid tires prohibited.

V¹—Solid tires prohibited except on property carrying vehicles operating at 10 miles per hour or less.

V²—Solid tires limited to 20 miles per hour under 10,000 lbs., and to 12 miles per hour over 10,000 lbs.

W—See Note above.

W¹—Maximum gross when all axles carry maximum load—See "Note."

X—States where gross weight is determined by formula (See formula computations on next page).

Z—See "Restrictions Peculiar to Certain States" on next page.

Ala.—700 (L plus 40) on any unit or combination.

Ark.—650-700 (L plus 40) two or more consecutive axles and any unit or combination.

Cal.—800 (L plus 40) applies to vehicles and combinations first registered on or after Jan. 1, 1942, if total wheel base exceeds 18 feet; 700 (L plus 40) applies to vehicles and combinations if axle spacing 18 feet or less, first registered on or after Jan. 1, 1942; 850 (L plus 40) or 68,000 lbs. maximum, if total wheel base is between 25 and 45 feet, inclusive, for vehicles and combinations first registered prior to Jan. 1, 1942; terminates Jan. 1, 1952. 800 (L plus 40) if axle spacing of two or more axles is between 14 and 18 feet, inclusive, for vehicles and combinations first registered prior to Jan. 1, 1942; terminates Jan. 1, 1952.

Colo.—700 (L plus 40) semi-trailers.

Ga.—700 (L plus 40) any unit or combination.

Ind.—750 (L plus 40) two or more consecutive axles and any unit or combination.

Iowa—700 (L plus 40) any unit or combination.

Kans.—700 (L plus 40) only applies to combinations.

Md.—750 (L plus 40) any unit or combination.

Minn.—700 (L plus 40) any unit or combination.

Mont.—650 (L plus 40) for axle spacing to 20 ft. and 700 (L plus 40) above 20 ft.

Nebr.—750 (L plus 40) any unit or combination.

N.M.—750 (L plus 40) two or more consecutive axles and any unit or combination.

N. Y.—750 (L plus 40) three or more consecutive axles and any unit or combination.

N. Dak.—650 (L plus 40) any unit or combination.

Ohio—750 (L plus 40) 3 or more axles.

Ore.—700 (L plus 40) any unit or combination.

S. C.—700 (L plus 40) any unit or combination.

S. D.—600 (L plus 40) any unit or combination.

Texas—700 (L plus 40) any unit or combination.

Utah—700 (L plus 40) any unit or combination.

Wash.—750 (L plus 40) any unit or combination if axle spacing over 18 feet; 650 (L plus 40) if axle spacing 18 feet or less.

W. Va.—1330-1000-670 (L plus 40) applies to highways dependent on type of bridges thereon.

Wyo.—600 (L plus 40) two or more consecutive axles and any unit or combination.

NOTE ON "W" AND SHADED SQUARES

Except when shown in squares shaded with parallel lines or when followed by the letter "W," the above gross weight limits are the limits fixed by state law.

When shown in shaded squares the above limits are computations made by the National Highway Users Conference to show what it considers to be practical gross weights where gross weights are arrived at by application of one of the formulae shown below under Footnote "X." In making these computations, wheel base was arrived at by deducting 8 ft. total over-hang front and rear from permissible overall length of unit or combination; tandem axles were considered to be a minimum permissible distance apart: H-20 bridge formula was used in West Virginia. When actual over-hang is less than 8 ft. additional gross weight will be possible.

When followed by the letter "W," the limits shown are maximum possible weights where gross weight is determined by permissible axle weight. These limits are possible only when each axle carries a gross weight equal to the permissible axle limit as shown.

NATIONAL HIGHWAY USERS CONFERENCE, National Press Bldg., Washington, D. C.

Corrected to March 15, 1944, Copyright 1944

GROSS WEIGHTS COMPUTED BY FORMULAS

Computation of Gross Weights according to formulas, based on distance (in feet) between first and last axles, for States identified by State Size & Weight Limits chart by Footnote "X." It should be remembered that the figures in each column represent only a mathematical extension and are governed by Legal Overall Length Limits for single units and combinations of particular states. Also, that formula computations are superseded in some instances by specific limits given in the chart.

"L" (See Note Below)	South Dakota Wyoming	Arkansas[1] Montana[2] North Dakota Washington[5]	West Virginia (H-10 Bridges)	Arkansas,[3] California[9], Colorado, Georgia, Iowa, Kansas, S. Car., Texas, Utah	Indiana, Montana[4], Nebraska, New Mexico, Ohio, Oregon, Washington	West Virginia (H-15 Bridges)	West Virginia (H-20 Bridges)	California[10]	California[11]	"L" (See Note Below)
	600 (L + 40)	650 (L + 40)	670 (L + 40)	700 (L + 40)	750 (L + 40)[6]	1000 (L + 40)	1330 (L + 40)	800 (L + 40)	850 (L + 40)	
10 ft.	30000 lbs.	32500 lbs.	33500 lbs.	35000 lbs.	37500 lbs.	50000 lbs.	66500 lbs.	..... lbs.	..... lbs.	10 ft.
11	30600	33150	34170	35700	38250	51000	67830	.....	.....	11
12	31200	33800	34840	36400	39000	52000	69160	.....	.....	12
13	31800	34450	35510	37100	39750	53000	70490	.....	.....	13
14	32400	35100	36180	37800	40500	54000	71820	43200	.....	14
15	33000	35750	36850	38500	41250	55000	73150	44000	.....	15
16	33600	36400	37520	39200	42000	56000	74480	44800	.....	16
17	34200	37050	38190	39900	42750	57000	75810	45600	.....	17
18	34800	37700	38860	40600	43500	58000	77140	46400	.....	18
19	35400	38350	39530	41300	44250	59000	78470	47200	.....	19
20	36000	39000	40200	42000	45000	60000	79800	48000	.....	20
21	36600	39650	40870	42700	45750	61000	81130	48800	.....	21
22	37200	40300	41540	43400	46500	62000	82460	49600	.....	22
23	37800	40950	42210	44100	47250	63000	83790	50400	.....	23
24	38400	41600	42880	44800	48000	64000	85120	51200	.....	24
25	39000	42250	43550	45500	48750	65000	86450	52000	55250	25
26	39600	42900	44220	46200	49500	66000	87780	52800	56100	26
27	40200	43550	44890	46900	50250	67000	89110	53600	56950	27
28	40800	44200	45560	47600	51000	68000	90440	54400	57800	28
29	41400	44850	46230	48300	51750	69000	91770	55200	58650	29
30	42000	45500	46900	49000	52500	70000	93100	56000	59500	30
31	42600	46150	47570	49700	53250	71000	94430	56800	60350	31
32	43200	46800	48240	50400	54000	72000	95760	57600	61200	32
33	43800	47450	48910	51100	54750	73000	97090	58400	62050	33
34	44400	48100	49580	51800	55500	74000	98420	59200	62900	34
35	45000	48750	50250	52500	56250	75000	99750	60000	63750	35
36	45600	49400	50920	53200	57000	76000	101080	60800	64600	36
37	46200	50050	51590	53900	57750	77000	102410	61600	65450	37
38	46800	50700	52260	54600	58500	78000	103740	63400	66300	38
39	47400	51350	52930	55300	59250	79000	105070	63200	67150	39
40	48000	52000	53600	56000	60000	80000	106400	64000	68000 max.	40
41	48600	52650	54270	56700	60750	81000	107730	64800	.....	41
42	49200	53300	54940	57400	61500	82000	109060	65600	.....	42
43	49800	53950	55610	58100	62250	83000	110390	66400	.....	43
44	50400	54600	56280	56800	63000	84000	111720	67200	.....	44
45	51000	55250	56950	59500	63750	85000	113050	68000	.....	45
46	.....	55900	.....	60200	64500	.....	.....	68800	.....	46
47	.....	56550	.....	60900	65250	.....	.....	69600	.....	47
48	.....	57200	.....	61600	66000	.....	.....	70400	.....	48
49	.....	57850	.....	62300	66750	.....	.....	71200	.....	49
50	.....	58500	.....	63000	67500	.....	.....	72000	.....	50
51	.....	59150	.....	63700	68250	.....	.....	72800	.....	51
52	.....	59800	.....	64400	69000	.....	.....	73600	.....	52
53	.....	60450	.....	65100	69750	.....	.....	74400	.....	53
54	.....	61100	.....	65800	70500	.....	.....	75200	.....	54

"L"—distance in feet between first and last axles of group of axles considered.

1—Arkansas vehicles with axles spaced not more than 7 ft. apart.

2—Arkansas vehicles with axles spaced over 7 ft. apart.

3—Montana vehicles with axles spaced not more than 20 ft. apart.

4—Montana vehicles with axles spaced over 20 ft. apart.

5—Washington vehicles with axles spaced 18 ft. or less.

9—In California this applies (up to 18 feet) to any two or more axles on any vehicle or combination which was first registered on or after Jan. 1, 1942.

10—This applies (1) to any vehicle or combination with total wheel base exceeding 18 ft. which was first registered on or after Jan. 1, 1942.
(2) to any vehicle or combination, which was first registered prior to Jan. 1, 1942, having a group of two or more axles, where the distance between the first and last axles of the group is between 14 and 18 ft., inclusive. Terminates Jan. 1, 1952.

11—This applies to any vehicle or combination first registered prior to Jan 1, 1942, where the total wheel base is between 25 and 45 ft., inclusive. Maximum 68000 lbs. Terminates Jan. 1, 1952.

RESTRICTIONS PECULIAR TO CERTAIN STATES

ARK..... Maximum gross weights subject to maximum capacity based on tire sizes. Tolerance of 7½ per cent is allowed above allowances listed per tire sizes shown in Table (NHUC Size & Weight Book), but maximum axle weight is limited to 18,000 lbs. Vehicle weight allowances shown in State Size & Weight Limits chart are calculated on the basis of 8,000 lbs. on the front axle and 16,000 lbs. on all others. Single unit buses allowed axle weight of 17,600 lbs. if equipped with dual mounted low pressure tires not less in size than 10.50 x 22 in.

CALIF.... 18,000 lbs. per axle permitted on vehicles, registered prior to 1930 (11,000 per wheel), until Dec. 31, 1942.

CONN... Not more than 80 per cent of vehicle gross on any one axle.

DELA.... 2,000 lbs. additional allowed on three-axled trucks with pneumatic tires and two hubs and brakes on each hub.

D. C..... Solid tires, when permitted, allowed 10 per cent less than pneumatics.

FLA..... Private vehicles allowed 16,000 lbs. with power brakes and six tires.
For hire vehicles: (Solid tires forbidden.)
Trucks allowed 24,000 lbs. with power brakes and 12,000 lbs. unladen.
Tractor-semi trailer allowed 40,000 lbs. if both vehicles have power brakes.
Four-wheeled trailer allowed 20,000 lbs. with power brakes and over-sized tires.
No unit may carry a payload over 12,000 lbs.

KY..... Trucks and tractor-semi-trailers permitted 16,000 lbs. per axle, 28,000 lbs. gross weight and 33 feet length (tractor-semi-trailers) during National Emergency.

MINN.... When axles spaced under 8 ft. apart restricted to 12,000 lbs. on pneumatics and 7,200 lbs. on solid tires.

MO..... Special size and weight limitations apply in cities of 75,000 population or over.

OHIO.... Vehicles in use before Jan. 1, 1942, until Aug. 13, 1947, allowed—

	Pneumatic Tires	Solid Tires
Single units.....	24,000 lbs.	20,000 lbs.
Tractor-semi-trailer.	42,000	36,000
Other combinations.	66,000	56,000

ORE..... Highway Commission authorized length of 60 feet and gross weight of 68,000 lbs. for civilian cargoes as well as Army and Navy goods. The greatest allowances shown in State Size & Weight Limit chart are permitted on paved highways, and the lowest allowances are the maxima permitted on unpaved highways.

PA..... Six-wheelers must have minimum axle spacing of 36 in. between the two rear axles. Buses operating within municipalities exempted from 18,000 lbs. axle and 26,000 lbs. gross limits.

UTAH... Gross weight also limited to three times unladen weight.

VT..... The greatest allowances shown in State Size & Weight Limit chart are permitted on state highways, medium allowances are the maxima permitted on state-aid highways, and the lowest allowances are the maxima permitted on other highways.

VA..... Two-axled vehicles with six-wheels permitted 32,000 lbs. gross.

W.VA.... No unit may carry a load more than 100 per cent greater than its registered capacity if registered for not over two tons; or more than 50 per cent greater if registered for over two but not over four tons; or more than 25 per cent greater if registered for over four tons.

WISC.... Four-wheeled vehicles with two driving axles spaced 8 ft. or more apart permitted gross weight of 28,000 lbs.; if gross weight exceeds 24,000 lbs., the axle weight must not exceed 16,000 lbs. if equipped with high pressure pneumatic tires or 18,000 lbs. if equipped with balloon or low pressure tires.

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING

SAFETY EQUIPMENT REGULATIONS

STATE & ICC, COVERING BRAKES, DIRECTIONAL SIGNALS, FLARES & FUSEES

KEY TO SYMBOLS—(State Commission Rulings Are Given in Italics)

Corrected to March 1, 1944; Copyright, 1944

GENERAL
B—Buses
CMV—Commercial Motor Vehicles
Comb—Combinations
MC—Motor Carriers
MV—Motor Vehicles
NS—Not Specified
PS—Public Service
SemiT—Semi-Trailer
T—Truck
Trl—Trailer
TTr—Truck-tractor
(2)—Brakes required on every wheel.
(3)—Brakes required on every wheel of new vehicles except light weight semitrailers.
(4)—Brakes required on every wheel of new vehicles except light weight trailers and semitrailers.
(4a)—Required on every wheel of new trailers and semi-trailers. On new vehicles acquired after Jan. 1, 1940, brakes are required on all wheels except full trailers, semi-trailers, and pole trailers having gross weight of 3000 lbs. or less; provided the gross weight of full trailers and 4 wheel pole trailers without brakes does not exceed 40% of the gross weight of the towing vehicle, and the gross weight of semi-trailers and 2 wheel pole trailers without brakes does not exceed 40% of the gross weight of the towing vehicle when connected thereto.

BRAKES
A—"Adequate"; "sufficient to control"; "good and sufficient"; "efficient"; "serviceable."
C—"Adequate to control the movement of and to stop and to hold such vehicle, including two seperate means of applying the brakes."
D—Brakes operated by driver.
(1)—So constructed if unit becomes disconnected brakes lock automatically.
(2)—Required on every wheel.
(5)—Air power or vacuum booster brakes (or electric in Fla. and Mich. and Wis.).
(6)—Buses over 10 seats.
*—Where no designation of the specific class (i.e., trailer or semitrailer) is made, both classes must be understood if full trailer is permitted to be used under State law.

DIRECTIONAL SIGNALS
DD—When so loaded or constructed as to make hand signal invisible.

STATE	BRAKES: Special Provisions For Trailers and Semi-Trailers: Applicable To *	BRAKES: Special Provisions For Trailers and Semi-Trailers: Type Required	FLARES AND FUSEES (or similar devices): Must Be Used By	FLARES AND FUSEES (or similar devices): Number	DIRECTIONAL SIGNALS: Required	DIRECTIONAL SIGNALS: Must Be Approved
I. C. C.	*Over 3000 lb. gross*	(1)A(4a)	*B, T, TTr*	*3*	*No*	*No*
Ala.	—	—	B, T, CMV	2	Yes DD	Yes
Ariz.	*Trailers*	*(5)D*	*MC*	*3*	Yes DD	Yes
Ark.	Over 1500 lbs. gross	(3)A	T	3	Yes DD	Yes
Calif.	Over 6000 lb. gr. over 20 m.p.h.	A	T over 2 Tons net, TTr	2	Yes DD	Yes
Colo.	Over 3000 lb. gross	(4)A(1)D	T, B	3	Yes DD	Yes
Conn.	Over 4000 lb. cap. or light weight	AD	PSMV, CMV ov. 1t Comb	NS	Yes DD	Yes
Del.	Over 4000 lb. gr. over 10 m.p.h.	AD	T over 80 in. wide	3	Yes DD	Yes
D. C.	—	A	—	—	No	No
Fla.	Over 3000 lbs. gross	(5)A(1)D	T, B, TTr	3	Yes DD	No
Ga.	2 axled Trl	A(5)D	T	3	No	No
Idaho	Over 1500 lb. net wt.	*A*	*B, T, TTr*	*3*	Yes DD	Yes
Ill.	Over 3000 lb. gross	(4)A(1)D	CMV, (6)	3	Yes DD	Yes
Ind.	Over 3000 lb. gross	(3)A(1)D	T, B, TTr	3	Yes DD	Yes
Iowa	Over 3000 lb. gross	(4)A(1)D	T, TTr	3	No	No
Kans.	—	—	*MC/T*	3	No	No
Ky.	Semi-Trailers	AD	T	3	No	No
La.	Over 1500 lb. net weight	(2)D	T, B, Comb	3	Yes DD	Yes
Maine	*Trailers, 2 Tons or more cap.*	A	*MC*	*3*	No	No
Md.	3000 lb. or over gross	(1)AD	CMV over 2500 lbs. gross	3	Yes DD	Yes
Mass.	—	—	CMV over 8500 lbs.	3	Yes DD	Yes
Mich.	Over 3000 lb. gross	(3)(5)A(1)D	*MC*	*3*	Yes DD	Yes
Minn.	Over 1500 lb. gross	(3)AL	T, B, TTr	3	Yes DD	Yes
Miss.	Trailers over 1 Ton capacity	A(1)D(4)	T, B	NS	Yes DD	Yes
Mo.	—	—	—	—	Yes DD	Yes

STATE	BRAKES: Special Provisions For Trailers and Semi-Trailers: Applicable To *	BRAKES: Special Provisions For Trailers and Semi-Trailers: Type Required	FLARES AND FUSEES (or similar devices): Must Be Used By	FLARES AND FUSEES (or similar devices): Number	DIRECTIONAL SIGNALS: Required	DIRECTIONAL SIGNALS: Must Be Approved
Mont.	—	—	B or T	2	No	No
Nebr.	—	—	T, B, Comb	3	Yes DD	Yes
Nev.	Over 3000 lb. gross	(1)(3)AD	—	—	No	No
N. H.	Over 3000 lb. gross	A	T, TTr, B	2	No	No
N. J.	Over 3000 lb. gross	A(1)(4)	CMV over 2½ Ton (6)	3	Yes DD	Yes
N. M.	Over 1500 lb. (capacity)	A(2)D	T over ton capacity	3	Yes DD	Yes
N. Y.	Over 1000 lb. net weight	A(5)	T over net 2 ton Comb (6)	2	Yes DD	Yes
N. C.	2 tons or over gross	D	T, Trl, SemiT	NS	Yes DD	Yes
N. D.	—	—	—	—	Yes DD	Yes
Ohio	2000 lbs. or more gross	(1)D	B, T, TTr	3	No	No
Okla.	—	—	—	—	No	No
Ore.	—	A	B, T	3	Yes DD	Yes
Penna.	Over 1000 lbs. net weight	(3)A(1)D	B, CMV, Comb, over 5½ ton	3	Yes DD	Yes
R. I.	Trailers, gross over 14 tons	A	PSMV,CMV ov. 1 ton, comb	NS	Yes DD	Yes
S. C.	*SemiT over 1½ ton, gross* Over 3000 lbs. gross	(3)C(1)D	T, Trl, SemiT, *MC*	3	Yes DD	Yes
S. D.	—	A	T, Tr Comb	3	Yes DD	Yes
Tenn.	Over 3000 lb. gross	(3)A(1)D	B, T, TTr	3	No	No
Texas	—	—	CMV, Comb, B	3	No	No
Utah	Over 3000 lbs. gross	(3)A(1)D	B, T, TTr	3	Yes DD	Yes
Vt.	—	—	B, T, Comb	3	No	No
Va.	Over 2 tons capacity	D	B, T	3	Yes DD	Yes
Wash.	Over 1 ton gross	AD	T, CMV, Comb	3	Yes DD	Yes
W. Va.	Over 3000 lb. gross	(3)A(1)D	—	—	No	No
Wisc.	Over 3000 lb. gross	D	T, Comb	1or2	No	No
Wyo.	Over 3000 lb. gross	(3)A(1)D	T, Comb, B	3	Yes DD	Yes

WASHINGTON RUNAROUND



Truck Output Off 25% . . . Plans for Increases Progress . . . 61,000 More Trucks for '44 . . . ODT Asks 720,000 for '45 . . . 90,000 Set for Part of '45 . . . Parts Scarcities Serious . . . Identification of New Parts . . . An "E" for Carriers? . . . For-Hire Subsidy Urged . . . Truck Financing & Tire Subsidy Proposals . . . Only Synthetics

by GEORGE T. HOOK, Editor

Truck Output Off 25%

Truck production in the first quarter of 1944 has been off some 25 per cent from established quotas. The Automotive Division of WPB is sufficiently concerned about this showing to have circularized all manufacturers participating in the 1944 program to get from them the reasons why quotas have not been met. The Division figures that if it knows the facts, it might be able to do something constructive. In January, 3100 trucks were scheduled and only 2645 were produced. In February 3400 were scheduled and only 2691 produced. Early forecasts were that 4800 trucks would be produced in March, but the actual production is expected to be 25 per cent off. ODT is reported to be "yelling like hell" for more production.

No Optimism Prevails, but . . .

In official quarters there is no evidence of gooey optimism that the modest 1944 truck production program will be met. Nor is there any disheartening pessimism. There is simply a realization that certain factors exist over which neither industry nor government can assert any control. It is realized that the Army's demand for more young men can play havoc with production. And there is no losing sight of the fact that much will depend on the course of the projected invasion of Europe.

Plans for Increases Progress

There is definitely no stagnant mental attitude in WPB and ODT circles. There is no better gage of this than the plans that are being made for increasing this year's production schedules, and the far-sighted plans that are being laid for 1945 production. There is an awareness that plans must be made to take advantage of any breaks that might occur in favor of the industry. This is to be contrasted with the lack of alertness ascribed in official circles to some manufacturers. A WPB spokesman said to this writer: "Your publication can do a distinct service by urging all manufacturers not to delay placing orders for the component units that they need to meet their production quotas. Not until all the orders are in can we tell exactly where the bottlenecks are. Once we know where they are we can take steps to clean them up."

61,000 More Trucks for '44

The plans for this year were said to include the addition of 61,000 medium and heavy trucks to the 88,000 civilian quota already approved. The 61,000 are being added because of military cut-backs.

ODT Asks 720,000 for '45

The plans for 1945 are said to include an ODT request for approximately 720,000 trucks. This figure includes some light trucks. This represents ODT's best estimate of what truck operators need in the way of new equipment. What happens to this request in committees that have to do with final decisions, remains to be seen.

90,000 Set for Part of '45

More definite is the report that plans for 90,000 civilian trucks in the first half of 1945 have progressed through official channels and are right at the top of WPB for clearance. This is in line with industry's recommendation of such a long-range program. The reasoning back of it is that these trucks can be allotted for earlier production if the war situation warrants military cut-backs.

Parts Scarcities Serious

The production of replacement parts has also been a disappointment. Of many parts there is ample production but there are just enough parts in the scarce category to cause concern. At the moment such parts include rear axles, transmission parts, engine blocks, heads, crankshafts, main and connecting rod bearings, ring gears, pinions, king pins and bushings. The degree of scarcity varies with parts and makes. The amendment to the L-158 parts order, announced here last month, which would make 5 per cent of facilities engaged in filling military orders available for the production of civilian parts, is expected to help ease many of the scarcities. Early in March this amendment was being written up by WPB legal department bulge-brows. Spokesmen in government circles claim that industry has said this 5 per cent amendment will cure the scarcity of critical parts. Spokesmen in industry circles object to this interpretation and suspect it as a rigging of the record, passing of the buck, to place the blame in the event scarcities continue.

Basement for Bearings?

Bearings continue to be a prime problem. There is some talk about insuring the quality of bearings by

putting a basement limit on the amount of restricted materials that go into certain bearings. There is only a ceiling limit now, which in itself is no guarantee.

Identification of New Parts

Under discussion also is a proposal that the new crop of replacement parts—especially bearings and valves—made without wartime substitute materials be identified some way that would enable the purchaser to tell what he is getting for his money. This is considered a more desirable alternative to the radical proposal that wartime parts be taken off the market to eliminate all possibility of misrepresentation by the seller. It is recognized that this might create a graver parts shortage than now exists. The argument is advanced that even a wartime part is better than none.

Only Two Schedules for L-270

For the record let it be said that, as predicted here last month, ODT issued its Order No. 10 early in March taking over the operation of Joint Information Offices as of March 27. Also that the unit replacement — or "rehabilitation" — program sketched here some time ago became an official fact. Details of both will be found elsewhere in this issue. Benefits to operators from the rehabilitation program are not expected before July 1. Shop equipment order L-270 is still in the works undergoing a revamping. The latest word is that instead of three schedules of various types of equipment—A, B and C—the amended order may have only two schedules and permit production of all items on these schedules at the rate of 100 per cent of 1941 production.

50% Return on Reports

ODT is still getting only a 50 per cent return on the Monthly Operating Reports which it sends out to selected groups of operators. Of the 50 per cent returned only about 25 per cent are useful. This is a constant source of amazement because the purpose of the report is to collect data that can be used to help solve the problems that plague the operators. There is still a possibility that some sort of "show-cause" order may be issued to compel better compliance.

In Memoriam

Joseph Bartlett Eastman

Born, June 26, 1882;
Died, March 15, 1944

Friend of highway transportation; brilliant, fair-minded public servant; modest, genial, kindly, and of an integrity beyond question.

An "E" for Carriers?

There is under consideration within ODT a proposal to devise an honor award for motor carriers similar to the Army-Navy "E" and the Maritime Commission "M" awarded industrial units for production excellence. It is argued that ODT should make such an award to carriers whose war effort has earned special distinction, and that there are many carriers and their employes deserving of the honor because of performance in the field of transportation which goes beyond the ordinary concepts of efficiency and service. The Motor Transport Division of ODT is smitten with the idea. There are many in ODT who would be pleased if the award somehow served as a memorial to their beloved director, Joseph B. Eastman.

For-Hire Subsidy Urged

Repugnant as the idea must be to all truck operators, the spectre of a subsidy to keep many of them in business under current high-operating-cost conditions has been raised in official circles. The recommendation was first made last December by a for-hire carrier advisory committee and was repeated last month. The financial condition of for-hire carriers varies with geographic location, but many of them—according to their reports to the Interstate Commerce Commission—are in such a serious plight that ODT has been urged not to delay study of the subsidy proposal. The carriers consider it axiomatic that unless the expenses of operating trucks can be decreased, or the revenue increased, or perhaps a combination of both, subsidies must be arranged if it is considered essential to the winning of the war that they continue in operation. The recommendation is being given serious study.

Truck Financing Proposal

Another proposal under consideration is one having to do with the purchase of new equipment. It has been recommended that ODT work out a plan with appropriate government agencies whereby government would finance the new vehicle purchases of needy operators. It was suggested that this might be in the form of a lease arrangement with title remaining in the governmental agency and an option by the carrier to purchase the equipment at the end of the lease or emergency. Payments would be in line with the depreciation rate set for the particular vehicle.

Tire Subsidy Proposal

Caught in the wringer between higher tire prices and lower mileage return from wartime tires, for-hire carriers are also seeking a way out of this costly dilemma. Considering all the factors inflicted by governmental restrictions and regulations, the carriers feel they should not be required to pay more than 50 per cent of the OPA ceiling price for "AA" tires. The balance, they argue, should be absorbed by government. Accordingly they recommend that on all future deliveries of "AA" tires all for-hire carriers be billed 50 per cent of the OPA ceiling price and that the manufacturer or dealer be reimbursed for the balance by direct government subsidy.

Only Synthetics After April 1

At a press conference Rubber Director Dewey told a representative of COMMERCIAL CAR JOURNAL that after April 1 practically all civilian tires will be made of synthetic rubber with the exception of certain special heavy-duty tires. These will contain some crude until production of rayon cord reaches a point where it will be available for such tires. Then the switch to all synthetic will be made even in such heavy-duty tires. When this switch will be made, he said, is in the lap of the gods. Director Dewey was asked about a claim that the S-5 and S-7 synthetic rubber tires, ordered to replace "AA" tires after April 1, would have a mileage performance equal to 80 per cent of pre-war tire mileage. Director Dewey said the claim was not his.



Joseph B. Eastman Dies of Heart Ailment

Joseph Bartlett Eastman, director of the Office of Defense Transportation, died March 15 at the Emergency Hospital in Washington, D. C., following a heart attack. He had been under treatment at the hospital for a heart ailment since Feb. 19. He was 61 years old. He was unmarried and the only survivor is a sister, Miss Elizabeth Eastman, of Washington.

Funeral services were conducted on March 17, and following cremation interment was in the family plot at Binghamton, N. Y.

Mr. Eastman was director of the ODT from its establishment on Dec. 18, 1941. He was a member of the Interstate Commerce Commission for 25 years, having been appointed by President Wilson on Dec. 19, 1918.

Mr. Eastman was born at Katonah, N. Y., on June 26, 1882, the son of a Presbyterian minister. Soon thereafter his parents moved to Pottsville, Pa. He was graduated from the Pottsville High School in June, 1900. He attended Amherst College and received the degree of Bachelor of Arts in 1904. He did social settlement work in Boston, became secretary of the Public Franchise League in 1906, and resigned in 1913 to act as counsel for various street railway employes' organizations in their wage controversies in 1913 and 1914. He was appointed to the Massachusetts Public Service Commission in 1915, reappointed in 1917, and went from there in 1918 to the Interstate Commerce Commission.

John B. Yerger, CCJ Technical Editor, Dies

John B. Yerger, technical editor of the COMMERCIAL CAR JOURNAL, died March 2 after an illness of three months. He was 38 years old.

He was identified with the automotive service business since 1923. Starting in the engineering department of a motor car manufacturer, he later became mechanic, tester, shop foreman and service manager for several large distributors of motor vehicles. In 1936 he joined the Chilton Co. and became associate editor of the Chilton Flat Rate Manual, and assisted in the preparation of other Chilton books dealing with the maintenance of automotive vehicles. He became technical editor of COMMERCIAL CAR JOURNAL in October, 1942.

His widow, two children and father survive.

Young Acting Director

Brigadier General Charles D. Young, U.S.A. retired, who has been deputy director of the Office of Defense Transportation, was named acting director by President Roosevelt to serve until a successor to the late Mr. Eastman was appointed.

(TURN TO PAGE 306, PLEASE)

Form CWN-OR (Rev. 1/44) — COMPLETE AND RETURN BY THE 15TH OF THE MONTH FOLLOWING THE MONTH INDICATED. — Budget Bureau No. 05-R096.1. Approval expires June 30, 1944.

1. Statement of operations conducted under the Certificate of War Necessity Number shown in the left-hand margin below as → ←. Do not include operations covered by other certificates you hold bearing different numbers.

United States of America
Office of Defense Transportation
OPERATING REPORT
for the month of .....

TRUCKS AND TRUCK-TRACTORS	Operations for *entire month* covered by this report: Miles run	Loads transported*: Tons	Loads transported*: Gallons (*if tank vehicles*)	Number of trucks and truck-tractors on *last working day of month*
(a) Owned and operated by you.				
(b) Owned by you but leased or rented to others.		x x x x x	xxxxxxxx	
(c) Leased or rented by you but owned by others.				
(d) Owned by you but out of service.	x x x x x x	x x x x x	xxxxxxxx	
(e) TOTAL				

*NOTE.—If you maintain your load records in units other than tons (gallons for tank vehicles), convert such units to tons or gallons on the basis of the best available estimate.

Class

2. Show here the total number of trucks and truck-tractors certified on the Certificate of War Necessity with the certificate number shown ..... If this total differs from the number shown above under 1 (e) as the number on the last working day of the month, give below the reason for the difference. If you have bought, sold, or junked any equipment during the month, indicate the number: Bought .....; Sold .....; Junked .....

Certificate of War Necessity No.

3. Number of gallons of motor fuel consumed in vehicles which you own (fuel used in operating miles run on lines 1 (a) and (b) above).	Gasoline	Diesel	Other (specify)

4. Number of *truck and truck-tractor* work days lost.
IMPORTANT.—Show here the number of days lost by all vehicles which you were unable to use during the month when they normally would have been used. Days lost by vehicles idle for one or more days during the month should be shown under the proper rated capacity and beside the appropriate reason.

REASON FOR DAYS LOST	Days Lost by Manufacturer's Rated Capacity of Truck or Truck-Tractor: Less than 1½-ton	1½-ton	Over 1½-ton	Total
(a) Manpower shortage				
(b) Delay in obtaining parts				
(c) Lack of tires				
(d) Lack of business				
(e) Other reasons (specify)				
(f) TOTAL				

Business name of operator .....
Street or R. F. D. .....
City and State .....
Type of operations ..... (Common carrier of agricultural products, etc.)
Signature .....
Date .....

16—38272-1

To satisfy the curiosity of truck operators who are not on ODT's special mailing list, above is a specimen of the new, simplified monthly operating report

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING

NATION-WIDE TRUCK AND TRAILER Inventory Statistics

by S. T. HITCHCOCK

Highway Engineer, Public Roads Administration, Federal Works Agency

THE information contained in the tabulations in this section has been obtained by the Highway Traffic Advisory Committee to the War Department from a survey of trucks and trailers made at the request of the War Department. This information was collected in 1941, prior to Pearl Harbor and in the following months. The data assembled in this survey reflect the last year of peacetime operation.

The survey was made from questionnaires sent out to motor vehicle owners for vehicles registered in each of the several States and controlled checked against the registration lists of those motor vehicle departments. It was under the technical supervision of Thomas H. MacDonald, Commissioner of the Public Roads Administration, Federal Works Agency, and Chairman of the Highway Traffic Advisory Committee, with the cooperation of motor vehicle departments. In most States the Work Projects Administration assisted in collecting the data.

Truck and trailer owners were mailed a total of 5,435,696 questionnaires which contained 26 inquiries concerning ownership, location, kind of vehicle, mileage driven, make, year model, manufacturer's rated capacity, cubic or fluid capacity, type of fuel, axle and tire arrangement, kind of trucking, kind of business, and body type. The cooperation with which commercial vehicle owners responded to this request is indicated by the fact that 5,117,632 questionnaires were returned. This is 94.1

(TURN TO PAGE 72, PLEASE)

EDITOR'S NOTE

The Nation-wide inventory assembled truck and trailer statistics in greater scope and detail than have ever heretofore been available to automotive manufacturers, or to persons responsible for planning and developing motor transport facilities.

These data can be used advantageously not only at the present time but also in planning for the post-war period, representing as they do operation of vehicles under what are considered to be normal conditions.

Index to Truck, Truck-Tractor, Semi-Trailer and Full Trailer Inventory Statistics

	Trucks	Truck Tractors	Semi-Trailers	Full Trailers
Inventory Totals by States	73	73	73	73
By Type of Ownership & Annual Average Mileage (U. S.)	73	73	73	73
By Year Model (U. S.)	73	73	73	73
Butane Vehicles by States	74	74	..	..
Diesel Vehicles by States	74	74	..	..
Electric Vehicles by States	74	74	..	..
Gasoline-Electric Vehicles by States	74	74	..	..
By Body Types & Annual Average Mileage (U. S.)	75	..	75	75
By Refrigerated Body Types & Mileage (U. S.)	74	..	74	74
By Tank Body Types (U. S.)	74	..	74	74
By Kind of Business & Annual Average Mileage (U. S.)	75	75	75	75
By Kind of Trucking & Annual Average Mileage (U. S.)	75	75	75	75
By Rated Capacity & Annual Average Mileage (U. S.)	75	75	75	75
Rated Capacity by Ownership (U. S.)	76	77	78	79
Rated Capacity by Kind of Trucking (U. S.)	76	77	78	79
Rated Capacity by States	80	80	81	81
Common Carrier Use by States	76	77	78	79
Contract Carrier Use by States	76	77	78	79
Local Haul (For-Hire) Use by States	76	77	78	79
Not-For-Hire Use by States	76	77	78	79

Nation-Wide Truck & Trailer Inventory Statistics ★



(CONTINUED FROM PAGE 71)

per cent of all questionnaires mailed. The analysis of these questionnaires upon their return showed that 3.0 per cent were returned because of lack of proper address and that 13.2 per cent were found to be void upon their return because they were mailed to owners who had sold, traded, junked, or otherwise disposed of the vehicles after registration.

After eliminating duplications caused by obtaining questionnaires for the same vehicle registered in more than one state and for non-pertinent vehicle types, the inventory was found to consist of:

3,711,137 trucks
121,256 truck-tractors
30,417 trailers
138,816 semi-trailers

4,001,626 total commercial vehicles.

These survey data are valid as of December 31, 1941.

DEFINITIONS

Fleets and Non-Fleets

Fleets were considered to be two or more vehicles under one ownership and registered in one state. It proved impractical to attempt a nationwide analysis of fleet operations because of the difficulty in recognizing identical fleet owners in the several states. Under this definition a fleet was considered to be two motor units or a motor unit and a trailer unit, etc., or more.

Types of Vehicles

Stationwagons, sedan deliveries, taxicabs, hearses, ambulances, fire engines, passenger cars converted into small trucks, and small trailers or semi-trailers of less than 1½ tons capacity, such as are pulled behind passenger cars, were not inventoried. Trailers and semi-trailers were considered to be separate vehicles from the motor units.

Ownership

Publicly owned vehicles includes those owned by state, city, town, county, local governments, etc. All other vehicles were considered to be privately owned.

Federally-owned vehicles have been omitted from this analysis.

Kind of Trucking

Kind of trucking refers to type of operation as to for-hire or not for-hire, and if for-hire, whether as common, contract, or local carriers, further classified according to interstate or intrastate operation.

Rated Capacity

Manufacturer's rated capacity refers to the information as indicated by the manufacturer. In some states the registration basis, such as load capacity, declared capacity, or licensed capacity, were terms more familiar to owners and it is recognized that in some cases the capacity reported may be that information rather than the specification plate data. The extent to which these other terms were reported in lieu of the specification ratings is not known and it has been assumed that the specification plate information was reported.

Mileage Data

The mileage information may be assumed to be representative of 1941. The inquiry requested that both mileage driven since new and mileage driven during the last calendar year be reported. Some questionnaires were completed early in the fall of 1941 and respondents making a strict interpretation would report 1940 data. It was apparent, however, that many owners averaged the total mileage driven with the age of the vehicle in reporting this information. Other owners reported mileage driven during the last 12 months, regardless of the calendar year basis.

Questionnaires were not returned for 318,064 vehicles. This number represents the additional vehicles which can be considered in the potential inventory. The ratio of the actual inventory, 4,001,626 vehicles, to the potential inventory is 92.6 per cent.

Few owners objected to completing the questionnaire and no attempt was made to obtain the information when objections were made.

MOTOR UNITS

Sixty-four per cent of all trucks and 79 per cent of all truck-tractors were usually garaged in urban areas. There appears to be little variation in the average annual mileage of either vehicle type with respect to sizes of cities, but trucks garaged in rural areas are driven 9300 miles a year whereas trucks in urban areas are driven 10,400 miles a year.

Fifty-six per cent of all trucks are owned by owners of only one vehicle and 40 per cent are owned by owners of fleets. Eighty-nine per cent of all truck-tractors are operated in fleets and 10 per cent are operated by owners of only one vehicle. Relatively few vehicles are owned by public agencies—4 per cent of the trucks and only 1 per cent of the truck-tractors.

Trucks operated in fleets average 11,800 miles a year in comparison with 8800 miles a year for trucks not operated in fleets and 10,013 miles a year for all trucks. Truck-tractors are operated on an average of 30,500 miles a year, but those in fleets average 31,400 miles a year.

For-hire trucks account for 17 per cent of all trucks, average 12,500 miles a year, and are driven 21 per cent of the mileage driven by all trucks. Common and contract carriers constitute but 7 per cent of all trucks, but average approximately 15,000 miles a year. For-hire truck-tractors represent 58 per cent of all truck-tractors, average 34,100 miles a year, and are driven 66 per cent of the mileage driven by all truck-tractors. Common and contract carriers account for 51 per cent of all truck-tractors.

Thirty-one per cent of all trucks are operated in agriculture and 24 per cent in wholesale and retail trade. Farmers average 7800 miles a year and trucks used by wholesalers and retailers average 11,300 miles a year. Those used by manufacturing

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industries average 12,700 miles a year, which is more than in any other industry.

Thirty-six per cent of the truck-tractors were found to be operating for manufacturers and for wholesalers and retailers, equally divided between the two, and averaging 26,000 and 30,400 miles a year for each, respectively.

No industry was reported for 12 per cent of the trucks and for 51 per cent of the truck-tractors. In general these were for-hire carriers which carry any load or part of a load for any kind of a business and hence would not be operating in any particular business.

The body types most frequently found on trucks were pick-up, stake or platform, and panel, accounting for 35, 24, and 16 per cent, respectively, of all trucks. Trucks equipped with van-type bodies averaged 14,500 miles a year, which was more than the average mileage of any other body type. Refrigerated body types were reported for 27,102 trucks, and tank types were reported on 97,005 trucks.

Forty-five per cent of all trucks have rated capacities of less than 1 ton and 39 per cent have rated capacities of 1½ tons. Altogether, 91 per cent of all trucks have rated capacities of 1½ tons or less. These vehicles are driven 88 per cent of the mileage driven by all trucks. The annual average mileage shows an increase with rated capacity from 9200 to 18,700 miles a year.

Forty-eight per cent of all truck-tractors have rated capacities of 1½ tons. These vehicles average 27,100 miles a year and are driven 42 per cent of the mileage driven by all truck-tractors. The annual average mileage driven by truck-tractors shows an increase with rated capacity from 14,600 miles to 36,400 miles for capacities ranging from less-than-1-ton to 5-ton vehicles, above

VEHICLES by TYPE of OWNERSHIP and ANNUAL AVERAGE MILEAGE

NUMBER OF VEHICLES AND ANNUAL AVERAGE MILEAGE	TYPES OF OWNERSHIP: ALL TYPES	PRIVATE FLEETS (Multiple ownership)	PRIVATE NON-FLEETS (Single ownership)	PUBLIC
VEHICLES				
Number of Trucks	3,711,137	1,472,876	2,099,147	139,114
Number of Truck-Tractors	121,256	108,044	12,085	1,127
Number of Semi-Trailers	138,816	126,550	10,617	1,649
Number of Full Trailers	30,417	25,558	2,421	2,438
MILEAGE				
Truck annual average mileage	10,000	11,800	8,800	11,100
Truck-Tractor annual average mileage	30,500	31,400	24,500	10,900
Semi-Trailer annual average mileage	31,300	31,900	24,900	9,100
Full-Trailer annual average mileage	21,700	23,300	10,300	3,100

TRUCK, TRUCK-TRACTOR and TRAILER INVENTORY TOTALS

STATE	TRUCKS	TRUCK-TRACTORS	SEMI-TRAILERS	FULL-TRAILERS
All States	3,711,137	121,256	138,816	30,417
Alabama	41,769	790	559	29
Arizona	18,743	552	642	385
Arkansas	53,877	3,893	3,957	49
California	284,604	8,348	9,748	10,391
Colorado	51,033	1,033	1,222	154
Connecticut	50,511	694	892	146
Delaware	9,957	375	391	50
Florida	62,314	2,244	2,883	847
Georgia	62,596	2,121	2,597	289
Idaho	25,236	214	494	383
Illinois	208,191	9,225	8,153	1,040
Indiana	94,472	5,231	5,303	276
Iowa	86,501	1,622	1,861	170
Kansas	92,339	1,585	2,673	496
Kentucky	56,286	552	584	54
Louisiana	52,751	4,085	4,453	324
Maine	37,096	308	421	101
Maryland	44,104	1,721	1,700	256
Massachusetts	91,562	2,733	3,429	195
Michigan	116,736	4,168	4,337	2,068
Minnesota	106,139	2,338	3,180	399
Mississippi	36,478	970	914	57
Missouri	121,573	5,567	6,980	432
Montana	43,716	387	417	224
Nebraska	57,351	1,807	1,990	107
Nevada	8,097	66	94	56
New Hampshire	17,503	252	306	16
New Jersey	104,907	3,620	3,733	243
New Mexico	19,753	867	785	38
New York	292,932	7,408	8,571	1,108
North Carolina	74,633	4,216	4,271	118
North Dakota	34,258	277	238	8
Ohio	191,006	10,614	12,258	3,170
Oklahoma	71,173	2,269	2,987	355
Oregon	60,813	3,986	4,568	1,010
Pennsylvania	223,795	6,484	7,012	1,096
Rhode Island	19,984	398	369	112
South Carolina	35,549	1,669	2,381	287
South Dakota	27,797	399	396	51
Tennessee	64,584	1,325	1,385	29
Texas	199,987	6,535	9,283	1,280
Utah	18,386	175	264	129
Vermont	15,421	201	220	41
Virginia	70,381	2,798	2,821	293
Washington	82,115	1,122	1,932	1,373
West Virginia	43,190	608	818	37
Wisconsin	100,364	2,874	3,445	382
Wyoming	14,488	450	602	87
District of Columbia	14,106	280	297	176

VEHICLE TYPE by YEAR MODEL

YEAR MODEL	VEHICLE TYPE: TRUCKS[3]	TRUCK-TRACTORS	SEMI-TRAILERS	FULL TRAILERS
All Models	3,711,137	121,256	138,816	30,417
Not Reported	32,940	832	28,058	6,835
Reported	3,678,197	120,424	110,758	23,582
1942[2]	55,929	3,343	755	131
1941	522,503	35,815	20,109	3,372
1940	434,982	25,433	17,748	2,897
1939	340,641	16,990	13,669	2,088
1938	254,781	7,876	7,888	1,717
1937	437,476	10,399	11,576	2,342
1936	416,934	8,386	12,452	2,164
1935	257,769	4,203	8,766	1,794
1934	196,088	2,430	5,234	986
1933	94,378	1,130	3,184	543
1932	70,985	756	2,016	574
1931	129,486	764	1,408	712
1930 and older	466,245	2,899	5,953	4,262

1 Preliminary release subject to correction.
2 Partial years production only.
3 Computed from actual inventory in 20 States, from an expansion of a 10 percent sample in 11 States and from an expansion of a 20 percent sample in 18 States.

which the average drops back to 31,900 miles for the largest capacity vehicles.

Fifty-six per cent of all trucks are of 1937 year model or older; whereas only 26 per cent of all truck-tractors fall in the same age classification.

Trucks using fuel or power other than gasoline amounted to 10,140, of which there were 4050 diesel, 3138

(Turn to Page 82, Please)

TANK BODY TYPES

(Types of Tank Bodies by Vehicle Types)

TANK BODY TYPE	VEHICLE TYPE		
	TRUCKS	SEMI-TRAILERS	FULL TRAILERS
All Types	97,005	9,794	2,283
Gasoline	83,951	6,923	1,326
Oil	19,564	1,304	435
Milk	1,860	731	103
Other	5,019	574	340
Demountable	6,624	70	44
Refrigerated			
Milk	318	184	26
Other	69	8	9

REFRIGERATED BODY TYPES *

(Number of Vehicle Types and Annual Average Mileage)

REFRIGERATED BODY TYPE	TRUCKS		SEMI-TRAILERS		FULL TRAILERS	
	Number	Annual Average Mileage	Number	Annual Average Mileage	Number	Annual Average Mileage
All Types	27,102	16,100	4,634	48,800	348	48,007
Van	9,394	19,300	3,827	48,900	279	50,100
Panel	12,101	13,500	.....	.....	.....	.....
Other Non-tank	5,220	15,600	615	43,700	34	34,600
Milk Tank	318	28,800	184	60,800	26	58,900
Other Tank	69	16,200	8	45,000	9	5,800

* Includes some insulated bodies which may not be equipped with refrigerating units.

DIESEL, BUTANE, ELECTRIC and GAS-ELECTRIC TRUCKS

(And Truck-Tractors by State of Garaged Address)

STATE OF GARAGED ADDRESS	TYPE OF SPECIAL FUEL									
	ALL TYPES		DIESEL		BUTANE		ELECTRIC		GAS-ELECTRIC	
	Trucks	Truck-Tractors	Trucks	Truck-Tractors	Trucks	Truck-Tractors	Trucks	Truck-Tractors	Trucks	Truck-Tractors
All States	10,240	4,316	4,050	3,212	3,138	1,084	2,952	18	100	2
Alabama	52	9	25	8	9	1	17	.....	1	.....
Arizona	122	76	60	56	60	20	1	.....	1	.....
Arkansas	50	23	31	22	19	1	.....	.....	.....	.....
California	3,708	1,820	1,410	1,061	2,270	759	22	.....	4	.....
Colorado	68	114	41	111	7	3	20	.....	.....	.....
Connecticut	55	26	40	26	6	.....	8	.....	1	.....
Delaware	1	.....	1	.....	.....	.....	.....	.....	.....	.....
Florida	77	19	36	19	21	.....	14	.....	6	.....
Georgia	28	10	15	10	12	.....	1	.....	.....	.....
Idaho	147	9	143	9	3	.....	.....	.....	1	.....
Illinois	658	108	97	101	30	7	528	.....	3	.....
Indiana	78	51	36	51	5	.....	35	.....	2	.....
Iowa	41	11	36	11	2	.....	3	.....	.....	.....
Kansas	125	49	58	33	59	16	5	.....	3	.....
Kentucky	6	3	2	3	1	.....	3	.....	.....	.....
Louisiana	308	29	79	21	85	8	144	.....	.....	.....
Maine	6	14	5	14	.....	.....	1	.....	.....	.....
Maryland	27	4	15	3	1	.....	9	1	2	.....
Massachusetts	143	71	49	68	5	1	89	2	.....	.....
Michigan	82	106	59	105	6	1	15	.....	2	.....
Minnesota	44	141	27	92	5	48	12	.....	.....	1
Mississippi	70	12	21	8	48	4	1	.....	.....	.....
Missouri	136	89	67	34	30	55	38	.....	1	.....
Montana	51	39	46	39	3	.....	2	.....	.....	.....
Nebraska	22	18	8	17	12	1	2	.....	.....	.....
Nevada	46	31	43	29	3	2	.....	.....	.....	.....
New Hampshire	3	13	1	13	2	.....	.....	.....	.....	.....
New Jersey	383	73	63	71	8	.....	290	2	2	.....
New Mexico	35	26	12	16	23	10	.....	.....	.....	.....
New York	1,918	310	451	297	15	.....	1,449	13	3	.....
North Carolina	20	120	14	120	1	.....	2	.....	3	.....
North Dakota	21	44	19	7	1	37	.....	.....	1	.....
Ohio	71	95	29	95	1	.....	29	.....	12	.....
Oklahoma	102	47	26	10	72	37	3	.....	1	.....
Oregon	214	209	198	198	11	11	1	.....	4	.....
Pennsylvania	297	77	134	76	5	1	129	.....	29	.....
Rhode Island	12	11	9	11	1	.....	1	.....	1	.....
South Carolina	41	22	25	22	4	.....	10	.....	2	.....
South Dakota	17	5	16	3	.....	2	.....	.....	1	.....
Tennessee	39	35	13	34	7	1	19	.....	.....	.....
Texas	369	38	109	21	243	14	7	.....	10	1
Utah	108	58	82	53	24	5	2	.....	.....	.....
Vermont	3	5	3	5	.....	.....	.....	.....	.....	.....
Virginia	35	43	29	43	3	.....	3	.....	3	.....
Washington	309	64	292	63	8	1	9	.....	.....	.....
West Virginia	11	20	11	20	.....	.....	.....	.....	.....	.....
Wisconsin	75	95	48	57	3	38	23	.....	1	.....
Wyoming	20	24	16	24	4	.....	.....	.....	.....	.....
District of Columbia	5	2	.....	2	.....	.....	5	.....	.....	.....

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Nation-Wide Truck & Trailer Inventory Statistics

VEHICLES by BODY TYPES and MILEAGE

BODY TYPE	TRUCKS			SEMI-TRAILERS			FULL TRAILERS		
	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage
All Types	3,711,137	100.0	10,000	138,816	100.0	31,300	30,417	100.0	21,700
Not Reported	54,954	1.5	11,200	6,985	5.0	24,400	3,794	12.4	12,200
Reported	3,656,183	100.0	10,000	131,831	100.0	31,600	26,623	100.0	22,200
Cargo	128,688	3.5	10,600	15,505	11.8	33,900	1,247	4.7	22,200
Dump	303,794	8.3	11,300	2,069	1.6	21,600	659	2.5	18,800
Express or Screen	54,052	1.5	8,900	379	0.3	24,800	63	0.2	19,800
Panel	566,910	15.5	11,200						
Pickup	1,263,464	34.6	8,600						
Rack	111,323	3.1	10,500	2,589	2.0	28,200	1,410	5.2	18,300
Stake or Platform	887,590	24.2	9,800	36,825	27.9	23,300	13,189	49.5	17,000
Van	109,512	3.0	14,500	40,506	30.7	37,300	2,421	9.1	35,200
Other Types	230,850	6.3	11,600	33,958	25.7	32,600	7,634	28.6	27,900

VEHICLES by RATED CAPACITY and MILEAGE

MANUFACTURER'S RATED CAPACITY IN TONS	TRUCKS			TRUCK-TRACTORS			SEMI-TRAILERS			FULL TRAILERS		
	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage
All capacities	3,711,137	100.0	10,000	121,256	100.0	30,500	138,816	100.0	31,300	30,417	100.0	21,700
Not reported	172,948	4.7	9,400	10,388	8.6	27,700	31,285	22.6	30,100	10,745	35.3	19,600
Reported	3,538,189	100.0	10,000	110,868	100.0	30,700	107,531	100.0	31,600	19,672	100.0	22,300
Less than 1	1,578,527	44.6	9,200	753	0.7	14,600	12,983	12.1	23,200	3,876	19.7	13,100
1-1¼	257,595	7.3	8,200	648	9.6	18,300	9,391	8.7	26,900	2,850	14.5	12,900
1½	1,376,227	38.9	10,800	52,761	47.6	27,100	17,274	16.0	35,900	2,028	10.3	25,800
1¾-2¾	167,514	4.7	11,800	22,432	20.2	33,500	7,125	6.6	34,600	1,555	7.9	22,000
3-4½	92,840	2.6	12,700	20,171	18.2	36,400	16,507	15.4	29,200	3,177	16.1	23,500
5-6½	40,870	1.2	13,100	7,111	6.4	33,100	14,496	13.5	33,200	1,704	8.7	26,200
7-9½	16,253	0.5	14,000	2,459	2.2	32,400	24,805	23.1	33,700	3,566	18.1	28,700
10-22½	8,363	0.2	18,700	4,533	4.1	31,900	4,950	4.6	29,900	916	4.7	19,400

VEHICLES by KIND of TRUCKING and MILEAGE

KIND OF TRUCKING	TRUCKS			TRUCK-TRACTORS			SEMI-TRAILERS			FULL TRAILERS		
	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage
All kinds	3,711,137	100.0	10,000	121,256	100.0	30,500	138,816	100.0	31,300	30,417	100.0	21,700
Public owned	139,114	3.8	11,100	1,127	0.9	10,900	1,649	1.2	9,100	2,438	8.0	3,100
Private not for-hire	2,935,607	79.0	9,400	49,269	40.6	25,100	61,832	44.5	25,100	17,911	58.9	14,700
Private for-hire	636,416	17.2	12,500	70,860	58.5	34,100	75,335	54.3	36,600	10,068	33.1	31,100
Not reported	19,140	0.5	10,700	892	0.7	26,600	1,164	0.8	29,400	216	0.7	28,200
Common carrier	195,230	5.3	14,700	45,996	38.0	36,900	49,441	35.6	37,800	5,570	18.3	34,600
Contract carrier	63,831	1.7	15,500	16,197	13.4	35,000	16,298	11.8	36,300	2,306	7.6	31,200
Local haul	358,215	9.7	10,800	7,775	6.4	18,000	8,432	6.1	17,300	1,976	6.5	11,800

VEHICLES by KIND of BUSINESS and MILEAGE

KIND OF BUSINESS	TRUCKS			TRUCK-TRACTORS			SEMI-TRAILERS			FULL TRAILERS		
	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage	Number	Per Cent	Annual Average Mileage
All kinds	3,711,137	100.0	10,013	121,256	100.0	30,500	138,816	100.0	31,332	30,417	100.0	21,678
Public	139,114	3.7	11,100	1,127	0.9	10,900	1,649	1.2	9,053	2,438	8.0	3,102
Private	3,572,023	96.3	9,976	120,129	99.1	30,700	137,167	98.8	31,502	27,979	92.0	22,486
Agriculture	1,162,174	31.3	7,800	5,901	4.9	19,300	6,210	4.5	18,665	5,499	18.1	8,476
Forestry	2,018	(0.05)	11,200	42	(0.03)	25,800	49	(0.03)	19,321	5	(0.02)	9,000
Fishing	2,299	(0.05)	9,400	10	(0.01)	50,000	12	(0.01)	60,500	2	(0.01)	38,000
Mining	38,634	1.1	11,100	1,199	1.0	19,100	2,841	2.1	14,832	941	3.1	11,245
Contract construction	237,347	6.4	8,600	2,346	1.9	14,300	2,845	2.1	12,444	1,510	5.0	6,385
Manufacturing	388,300	9.9	12,700	21,898	18.1	28,000	25,003	18.0	26,909	4,264	14.0	20,677
Public utilities	116,319	3.2	8,500	3,120	2.6	21,100	7,249	5.2	18,966	2,124	7.0	8,482
Retail and wholesale trade	881,390	23.8	11,300	21,519	17.8	30,400	23,608	17.0	31,331	3,601	11.8	24,280
Finance	3,939	0.1	5,600	21	(0.02)	8,500	10	(0.01)	17,800	8	(0.03)	1,000
Service industries	285,534	7.7	8,700	1,595	1.3	13,400	1,528	1.1	11,224	418	1.4	7,613
Government	15,750	0.4	11,900	42	(0.03)	14,000	34	(0.02)	17,579	19	0.1	16,000
Miscellaneous	458,319	12.4	12,900	62,436	51.5	35,300	67,778	48.8	38,611	9,588	31.5	32,503

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Nation-Wide Truck & Trailer Inventory Statistics

TRUCKS—RATED CAPACITY by Ownership & Kind of Trucking

OWNERSHIP AND KIND OF TRUCKING	NUMBER OF TRUCKS IN EACH MANUFACTURER'S RATED CAPACITY GROUP									
	Total	Not Reported	Under 1 Ton	1-1¼ Tons	1½ Tons	1¾-2¾ Tons	3-4½ Tons	5-6½ Tons	7-9½ Tons	10-22½ Tons
All States	3,711,137	172,948	1,578,526	257,595	1,376,228	167,514	92,840	40,870	16,253	8,363
Publicly owned	139,114	6,891	27,817	3,789	66,111	12,544	11,929	5,961	3,362	730
Privately owned	3,572,023	166,057	1,550,709	253,826	1,310,117	154,970	80,911	34,909	12,891	7,633
Not for-hire	2,935,607	145,864	1,407,735	221,594	969,241	105,374	52,438	21,255	7,835	4,271
Total for-hire	636,416	20,193	142,974	32,232	340,876	49,596	28,473	13,654	5,056	3,382
Not reported	19,140	1,779	4,983	1,007	8,745	1,529	719	253	95	30
Common carrier	195,230	5,625	33,762	7,670	104,200	20,639	13,047	6,266	2,382	1,639
Contract carrier	63,831	2,264	10,476	3,482	32,924	6,305	4,351	2,271	940	818
Local haul	358,215	10,525	93,753	20,073	195,007	21,123	10,356	4,864	1,639	875
PRIVATE FLEETS										
Ownership total	1,472,876	67,380	458,997	102,544	630,436	106,582	61,585	27,451	11,200	6,701
Not for-hire	1,177,699	56,109	415,689	89,999	474,671	73,111	40,340	16,964	6,994	3,822
Total for-hire	295,177	11,271	43,308	12,545	155,765	33,471	21,245	10,487	4,206	2,879
Not reported	10,787	1,402	2,116	540	4,722	1,148	561	197	76	25
Common carrier	111,735	3,530	12,108	3,501	57,590	15,571	10,734	5,225	2,080	1,396
Contract carrier	39,947	1,787	4,375	2,373	19,395	4,827	3,644	1,978	815	753
Local haul	132,708	4,552	24,709	6,131	74,058	11,925	6,306	3,087	1,235	705
PRIVATE NON-FLEETS										
Ownership total	2,099,147	98,677	1,091,712	151,282	679,681	48,388	19,326	7,458	1,691	932
Not for-hire	1,757,908	89,755	992,046	131,595	494,570	32,263	12,098	4,291	841	449
Total for-hire	341,239	8,922	99,666	19,687	185,111	16,125	7,228	3,167	850	483
Not reported	8,353	377	2,867	467	4,023	381	158	56	19	5
Common carrier	83,495	2,095	21,654	4,169	46,610	5,068	2,313	1,041	302	243
Contract carrier	23,884	477	6,101	1,109	13,529	1,478	707	293	125	65
Local haul	225,507	5,973	69,044	13,942	120,949	9,198	4,050	1,777	404	170

TRUCKS BY KIND OF TRUCKING IN WHICH USED

STATE OF GARAGE LOCATION	NUMBER OF TRUCKS CHIEFLY USED IN EACH KIND OF TRUCKING (Private Ownership Only)										
		FOR-HIRE VEHICLES									NOT FOR-HIRE
			Common Carrier				Contract Carrier				
	Total(1)	Not Reported	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Local Haul	
All States	3,572,023	19,140	3,197	128,425	23,135	40,473	1,218	45,558	7,280	9,775	358,215	2,935,607
Alabama	39,011	127	34	1,151	209	358	6	423	72	62	4,576	31,993
Arizona	17,832	89	25	941	102	104	4	138	27	14	1,061	15,327
Arkansas	52,384	262	29	1,303	134	210	9	417	48	33	6,069	43,870
California	283,114	970	284	12,401	1,340	1,962	39	4,236	238	394	17,875	243,375
Colorado	46,611	220	30	2,070	319	280	8	595	64	27	3,914	41,084
Connecticut	48,557	82	111	1,718	273	1,167	8	407	91	75	4,008	40,617
Delaware	9,662	28	11	296	125	99	7	45	41	28	816	8,168
Florida	59,233	156	46	1,071	236	305	7	456	74	67	3,873	52,942
Georgia	59,817	116	25	1,487	339	427	7	407	87	90	4,503	52,329
Idaho	24,247	90	11	647	144	276	5	295	56	47	1,934	20,742
Illinois	201,702	2,122	192	9,950	1,272	2,440	97	3,124	320	677	28,502	153,006
Indiana	90,115	557	117	2,209	753	891	30	795	187	286	11,683	72,607
Iowa	82,784	430	71	3,784	888	1,377	9	905	164	141	8,492	66,513
Kansas	89,627	319	55	1,802	489	704	20	1,155	239	210	8,831	75,803
Kentucky	53,439	120	74	1,679	442	504	4	713	116	95	7,040	42,652
Louisiana	50,603	114	34	1,469	297	353	11	472	57	50	4,088	43,658
Maine	36,261	244	33	1,307	200	113	19	626	74	90	5,820	27,735
Maryland	42,808	182	33	1,162	538	730	10	321	164	124	3,626	35,918
Massachusetts	87,237	454	137	6,571	908	3,135	16	998	207	345	5,259	69,207
Michigan	109,148	324	69	2,857	515	634	164	832	139	171	13,518	89,925
Minnesota	103,113	329	65	3,563	424	456	33	925	98	46	15,099	82,075
Mississippi	34,453	98	22	1,079	229	86	27	451	68	23	3,760	28,610
Missouri	119,231	1,042	133	4,274	1,029	1,385	16	1,167	342	328	17,239	92,276
Montana	42,029	179	24	730	124	161	10	363	51	72	2,617	37,698
Nebraska	55,092	185	68	2,546	426	928	14	404	72	61	6,122	44,266
Nevada	7,642	57	5	146	68	89	2	129	16	28	576	6,526
New Hampshire	16,922	129	18	547	156	233	4	302	54	47	2,008	13,422
New Jersey	101,421	463	85	3,327	1,332	2,387	55	1,299	602	922	7,698	83,251
New Mexico	18,910	90	16	622	87	187	2	212	50	36	1,629	15,979
New York	279,239	3,185	278	11,235	1,622	4,788	186	4,554	698	1,846	33,457	217,390
North Carolina	69,325	138	47	1,435	596	463	18	617	120	85	4,844	60,962
North Dakota	33,678	121	14	801	112	77	3	151	23	8	3,836	28,532
Ohio	182,521	1,078	86	4,523	818	1,662	3	1,975	282	367	17,590	154,157
Oklahoma	68,822	307	64	2,294	378	569	17	607	109	98	6,962	57,417
Oregon	58,550	674	50	1,340	149	592	22	476	54	44	3,619	51,530
Pennsylvania	218,298	1,138	222	11,744	1,706	3,841	79	2,996	545	1,139	24,461	170,427
Rhode Island	19,135	57	11	455	208	492	7	455	133	225	1,115	15,977
South Carolina	32,621	98	29	888	168	264	3	243	59	23	2,904	27,942
South Dakota	26,930	215	20	1,033	136	190	1	197	35	28	2,335	22,740
Tennessee	61,175	351	32	1,962	442	599	8	729	201	66	7,328	49,457
Texas	191,857	1,221	168	6,056	976	1,422	37	2,481	305	251	19,595	159,145
Utah	17,603	83	13	573	195	197	4	195	44	28	1,924	14,347
Vermont	14,968	92	21	723	165	240	3	192	56	32	2,082	11,356
Virginia	67,627	190	85	2,339	697	636	53	1,102	233	201	6,612	55,479
Washington	78,857	250	50	3,855	364	1,010	6	521	55	65	4,634	68,047
West Virginia	42,771	116	42	1,663	346	705	11	640	118	114	2,516	36,500
Wisconsin	95,877	166	70	2,015	458	401	76	4,373	335	352	7,608	80,023
Wyoming	13,849	59	13	412	99	99	10	345	37	42	1,067	11,685
District of Columbia	13,521	23	25	360	100	245	28	96	40	192	1,490	10,922

(1) This tabulation excludes 139,114 trucks of "Public Ownership."

BACK THE ATTACK
KEEP 'EM ROLLING
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Nation-Wide Truck & Trailer Inventory Statistics

TRUCK-TRACTORS—RATED CAPACITY by Ownership & Kind of Trucking

NUMBER OF TRUCK-TRACTORS IN EACH MANUFACTURER'S RATED CAPACITY GROUP

OWNERSHIP AND KIND OF TRUCKING	Total	Not Reported	Under 1 Ton	1-1¼ Tons	1½ Tons	1¾-2¾ Tons	3-4½ Tons	5-8½ Tons	7-9½ Tons	10-22½ Tons
All States—Total	121,256	10,388	753	648	52,761	22,432	20,171	7,111	2,459	4,533
Publicly owned	1,127	208	11	22	403	134	131	115	44	59
Privately owned	120,129	10,180	742	626	52,358	22,298	20,040	6,996	2,415	4,474
Not for-hire	49,269	5,083	551	392	24,170	7,692	6,732	2,403	900	1,346
Total for-hire	70,860	5,097	191	234	28,188	14,606	13,308	4,593	1,515	3,128
Not reported	892	280	2	2	344	134	74	33	15	8
Common carrier	45,996	3,129	96	117	16,943	10,018	9,264	3,097	956	2,376
Contract carrier	16,197	1,030	41	73	6,489	3,215	3,168	1,130	465	586
Local haul	7,775	658	52	42	4,412	1,239	802	333	79	158
PRIVATE FLEETS										
Ownership total	108,044	8,672	448	485	45,315	20,795	19,045	6,676	2,320	4,285
Not for-hire	43,014	4,072	297	279	20,538	7,053	6,363	2,282	856	1,274
Total for-hire	65,030	4,600	151	206	24,777	13,742	12,685	4,394	1,464	3,011
Not reported	751	231	2	1	276	121	69	31	13	7
Common carrier	43,404	2,963	86	114	15,605	9,568	8,914	2,978	938	2,318
Contract carrier	14,747	948	37	65	5,686	2,954	2,976	1,076	446	559
Local haul	6,048	456	26	26	3,210	1,099	726	309	67	127
PRIVATE NON-FLEETS										
Ownership total	12,085	1,508	294	141	7,043	1,503	992	320	95	189
Not for-hire	6,255	1,011	254	113	3,632	639	369	121	44	72
Total for-hire	5,830	497	40	28	3,411	864	623	199	51	117
Not reported	141	49	.....	1	68	13	5	2	2	1
Common carrier	3,512	166	10	3	1,338	450	350	119	18	58
Contract carrier	1,450	82	4	8	903	261	192	54	19	27
Local haul	1,727	200	26	16	1,202	140	76	24	12	31

TRUCK-TRACTORS BY KIND OF TRUCKING IN WHICH USED

NUMBER OF TRUCK-TRACTORS CHIEFLY USED IN EACH KIND OF TRUCKING (Private Ownership Only)

STATE OF GARAGE LOCATION	FOR-HIRE VEHICLES										NOT FOR-HIRE
			Common Carrier				Contract Carrier				
	Total(1)	Not Reported	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Local Haul	
All States	120,129	892	1,129	8,935	12,957	22,975	422	6,021	3,577	6,177	7,775	49,269
Alabama	788	.....	14	47	87	227	.....	14	3	25	34	337
Arizona	545	.....	.....	76	30	11	2	23	3	13	38	349
Arkansas	3,835	25	6	199	64	200	1	142	58	68	856	2,216
California	8,330	17	68	1,788	380	704	49	1,152	54	176	541	3,401
Colorado	1,024	9	11	87	260	141	.....	31	25	32	22	406
Connecticut	694	2	1	36	24	341	.....	5	10	35	15	225
Delaware	375	1	1	5	77	44	1	4	29	24	14	175
Florida	2,225	9	7	63	110	194	1	93	37	96	59	1,556
Georgia	2,112	2	45	152	86	270	1	61	54	65	63	1,313
Idaho	212	1	1	15	10	32	1	15	10	12	15	100
Illinois	9,184	372	191	704	1,456	1,571	131	235	448	333	952	2,791
Indiana	5,186	26	94	135	717	1,117	9	151	194	776	215	1,752
Iowa	1,615	8	9	106	156	640	.....	34	62	64	51	485
Kansas	1,579	5	7	95	163	224	2	206	84	108	42	643
Kentucky	551	1	34	12	28	147	.....	12	15	76	22	204
Louisiana	4,064	23	18	193	91	195	17	180	42	50	573	2,682
Maine	294	1	2	17	50	47	.....	15	10	11	20	121
Maryland	1,716	2	9	63	251	486	2	34	63	147	98	561
Massachusetts	2,706	4	37	198	297	1,308	5	59	60	103	19	616
Michigan	4,062	11	14	273	507	759	13	139	90	236	295	1,725
Minnesota	2,329	5	29	289	332	310	2	59	51	47	246	959
Mississippi	945	5	1	65	26	58	.....	34	5	10	123	618
Missouri	5,551	29	30	159	791	948	10	67	235	319	575	2,388
Montana	378	3	5	42	10	42	3	42	21	44	21	145
Nebraska	1,786	5	13	190	212	485	3	21	103	74	38	642
Nevada	65	2	1	1	2	17	2	5	1	2	1	31
New Hampshire	246	1	2	1	37	112	1	1	12	6	3	70
New Jersey	3,618	24	23	137	290	1,252	29	70	215	356	74	1,148
New Mexico	663	1	2	19	19	37	.....	39	15	20	47	464
New York	7,272	44	37	585	937	2,260	10	244	225	587	305	2,038
North Carolina	4,164	12	49	208	924	697	11	215	96	79	142	1,731
North Dakota	275	.....	1	37	15	68	.....	1	.....	.....	11	142
Ohio	10,522	77	192	492	1,463	2,141	17	845	416	854	468	3,557
Oklahoma	2,256	4	10	260	164	481	6	66	37	86	85	1,058
Oregon	3,983	25	9	296	29	124	2	331	34	25	463	2,645
Pennsylvania	6,403	44	24	447	863	1,798	16	237	319	590	194	1,871
Rhode Island	368	.....	3	10	32	135	1	7	8	20	13	139
South Carolina	1,627	4	3	118	71	303	6	80	14	60	61	907
South Dakota	397	3	1	47	44	102	.....	7	5	5	12	171
Tennessee	1,319	1	7	31	374	502	.....	21	40	8	44	291
Texas	6,493	42	39	681	305	1,008	9	280	55	87	532	3,455
Utah	175	.....	.....	6	36	11	.....	6	7	5	7	97
Vermont	201	.....	.....	4	64	69	.....	2	17	5	5	35
Virginia	2,787	28	16	69	440	512	19	170	193	111	123	1,106
Washington	1,103	3	9	279	39	212	1	36	3	5	55	461
West Virginia	608	5	8	35	80	192	.....	29	15	38	10	196
Wisconsin	2,801	2	44	139	492	314	20	424	51	243	136	936
Wyoming	435	.....	2	24	16	81	2	76	14	28	22	170
District of Columbia	262	4	.....	.....	6	46	18	1	19	13	15	140

(1) This tabulation excludes 1,127 truck-tractors of "Public Ownership."

BACK THE ATTACK
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Nation-Wide Truck & Trailer Inventory Statistics

SEMI-TRAILERS—RATED CAPACITY by Ownership & Kind of Trucking

OWNERSHIP AND KIND OF TRUCKING	NUMBER OF SEMI-TRAILERS IN EACH MANUFACTURER'S RATED CAPACITY GROUP									
	Total	Not Reported	1½-1¾ Tons	2-2¾ Tons	3 Tons	3½-4½ Tons	5-6½ Tons	7-9½ Tons	10-14½ Tons	15-22½ Tons
All States Total	138,816	31,285	12,983	9,391	17,273	7,126	16,507	14,496	24,806	4,949
Publicly owned	1,649	795	130	96	76	73	134	153	137	55
Privately owned	137,167	30,490	12,853	9,295	17,197	7,053	16,373	14,343	24,669	4,894
Not for-hire	61,832	16,544	8,051	5,233	5,993	2,888	6,705	6,342	8,583	1,512
Total for-hire	75,536	13,946	4,802	4,062	11,204	4,164	9,668	8,001	16,106	3,382
Not reported	1,164	260	78	167	184	63	85	137	175	15
Common carrier	49,441	8,572	2,105	2,426	7,580	2,791	6,508	5,301	11,886	2,292
Contract carrier	16,298	3,355	1,061	877	2,506	912	1,744	1,792	3,168	883
Local haul	8,432	1,759	1,558	592	934	398	1,331	771	897	192
PRIVATE FLEETS										
Ownership total	126,550	27,476	10,074	8,680	16,567	6,725	15,555	13,276	23,475	4,720
Not for-hire	55,583	14,638	6,418	4,844	5,642	2,687	6,251	5,657	8,007	1,439
Total for-hire	70,967	12,840	3,656	3,836	10,925	4,038	9,304	7,619	15,468	3,281
Not reported	1,026	207	49	159	178	61	75	128	156	13
Common carrier	47,778	8,113	1,792	2,346	7,454	2,743	6,362	5,152	11,870	2,246
Contract carrier	15,276	3,098	898	829	2,419	875	1,651	1,693	2,960	853
Local haul	6,887	1,422	917	502	874	359	1,216	646	782	169
PRIVATE NON-FLEETS										
Ownership total	10,617	3,012	2,779	615	630	328	818	1,067	1,194	174
Not for-hire	6,249	1,906	1,633	389	351	202	454	685	576	73
Total for-hire	4,368	1,106	1,146	226	279	126	364	382	638	101
Not reported	138	53	29	8	6	2	10	9	19	2
Common carrier	1,663	459	313	80	126	48	146	149	296	46
Contract carrier	1,022	257	163	48	87	37	93	99	208	30
Local haul	1,545	337	641	90	60	39	115	125	115	23

SEMI-TRAILERS BY KIND OF TRUCKING IN WHICH USED

STATE OF GARAGE LOCATION	NUMBER OF SEMI-TRAILERS CHIEFLY USED IN EACH KIND OF TRUCKING										
		FOR-HIRE VEHICLES									NOT FOR-HIRE
			Common Carrier				Contract Carrier				
	Total(1)	Not Reported	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Local Haul	
All States	137,167	1,164	1,364	8,553	12,612	28,912	649	6,038	3,154	6,457	8,432	61,832
Alabama	556	1	5	57	10	29	2	31	3	7	33	378
Arizona	635	1	3	84	29	12	1	24	4	9	37	431
Arkansas	3,909	20	21	155	58	210	.....	123	52	67	777	2,426
California	9,672	27	61	1,813	436	1,030	79	1,190	62	275	449	4,250
Colorado	1,198	9	15	93	318	156	.....	32	27	23	26	499
Connecticut	890	3	3	44	36	547	1	5	10	41	10	190
Delaware	388	2	1	3	92	37	.....	.....	25	38	9	181
Florida	2,827	11	4	57	105	188	2	89	40	76	82	2,193
Georgia	2,587	5	26	147	103	246	1	61	51	58	95	1,792
Idaho	492	1	3	35	11	36	.....	29	11	14	52	300
Illinois	8,151	373	272	285	738	1,960	276	122	218	157	596	3,154
Indiana	5,288	30	83	85	729	1,252	10	89	169	769	193	1,879
Iowa	1,852	14	5	122	147	739	7	39	60	69	55	595
Kansas	2,648	10	9	136	214	293	4	288	121	154	70	1,370
Kentucky	583	2	42	11	16	201	2	13	4	62	22	208
Louisiana	4,403	24	17	196	97	240	9	178	38	72	535	2,997
Maine	394	2	2	16	57	49	1	29	23	14	32	169
Maryland	1,699	9	15	52	295	516	17	17	64	130	79	505
Massachusetts	3,368	14	39	192	373	1,663	9	95	65	125	44	749
Michigan	4,201	8	9	317	439	921	5	110	68	279	190	1,855
Minnesota	3,167	4	12	282	378	370	1	65	49	41	480	1,485
Mississippi	898	6	5	37	16	58	3	24	2	3	80	664
Missouri	6,961	96	42	153	822	974	6	55	238	412	1,179	2,982
Montana	407	4	1	34	4	46	2	44	12	48	25	187
Nebraska	1,933	5	135	178	172	444	6	19	89	56	42	787
Nevada	90	2	.....	.....	5	22	1	6	2	3	2	47
New Hampshire	301	.....	5	2	50	147	2	2	3	7	2	81
New Jersey	3,732	12	29	110	227	1,277	49	50	196	376	64	1,342
New Mexico	778	3	1	17	15	39	1	37	9	30	58	568
New York	8,402	69	33	624	1,015	2,530	12	248	206	632	342	3,691
North Carolina	4,248	12	51	148	1,072	642	15	174	80	68	112	1,876
North Dakota	237	.....	9	28	19	51	.....	2	.....	1	6	121
Ohio	12,137	185	48	418	1,492	3,373	21	903	340	898	495	3,966
Oklahoma	2,968	10	15	273	141	545	10	70	33	92	103	1,676
Oregon	4,532	32	17	244	32	163	4	266	32	26	512	3,204
Pennsylvania	6,920	22	34	408	911	2,096	9	239	317	641	137	2,106
Rhode Island	367	.....	6	11	32	155	3	10	5	35	28	82
South Carolina	2,327	14	9	145	57	313	10	83	28	49	156	1,463
South Dakota	395	3	1	37	34	109	.....	5	6	5	16	179
Tennessee	1,382	.....	32	17	369	568	.....	8	39	23	36	290
Texas	9,064	69	120	743	314	1,109	2	431	76	123	728	5,349
Utah	262	.....	1	6	47	18	1	3	7	6	9	164
Vermont	219	.....	4	6	73	70	1	2	11	7	5	40
Virginia	2,806	35	23	67	357	539	24	169	168	91	126	1,207
Washington	1,904	5	13	443	.46	242	.....	45	7	13	103	987
West Virginia	817	2	16	29	91	222	.....	27	9	32	18	371
Wisconsin	3,318	7	58	162	492	350	17	428	48	254	162	1,340
Wyoming	583	1	6	30	22	79	3	79	17	25	26	293
District of Columbia	271	.....	.....	1	4	38	18	.....	10	25	14	163

(1) This tabulation excludes 1,649 semi-trailers of "Public Ownership."

BACK THE ATTACK
KEEP 'EM ROLLING
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Nation-Wide Truck & Trailer Inventory Statistics

FULL TRAILERS—RATED CAPACITY by Ownership & Kind of Trucking

NUMBER OF FULL TRAILERS IN EACH MANUFACTURER'S RATED CAPACITY GROUP

OWNERSHIP AND KIND OF TRUCKING	Total	Not Reported	1½-1¾ Tons	2-2¾ Tons	3 Tons	3½-4½ Tons	5-6½ Tons	7-9½ Tons	10-14½ Tons	15-22½ Tons
All States—Total	30,417	10,745	3,876	2,850	2,028	1,555	3,177	1,704	3,566	916
Publicly owned	2,438	1,133	114	194	146	93	198	56	233	271
Privately owned	27,979	9,612	3,762	2,656	1,882	1,462	2,979	1,648	3,333	645
Not for-hire	17,911	7,176	2,672	1,984	1,042	896	1,447	842	1,458	394
Total for-hire	10,068	2,436	1,090	672	840	566	1,532	806	1,875	251
Not reported	216	77	30	21	18	11	19	16	22	2
Common carrier	5,570	1,204	321	371	497	290	1,005	494	1,244	144
Contract carrier	2,306	617	147	119	223	165	313	203	471	48
Local haul	1,976	538	592	161	102	100	195	93	138	57
PRIVATE FLEETS										
Ownership total	25,558	8,406	3,221	2,407	1,784	1,415	2,897	1,593	3,230	605
Not for-hire	15,866	6,078	2,209	1,765	975	867	1,394	810	1,398	370
Total for-hire	9,692	2,328	1,012	642	809	548	1,503	783	1,832	235
Not reported	201	74	26	20	18	10	16	15	20	2
Common carrier	5,447	1,175	299	367	488	283	992	486	1,221	136
Contract carrier	2,244	607	135	115	216	163	306	198	461	43
Local haul	1,800	472	552	140	87	92	189	84	130	54
PRIVATE NON-FLEETS										
Ownership total	2,421	1,206	541	249	98	47	82	55	103	40
Not for-hire	2,045	1,098	463	219	67	29	53	32	60	24
Total for-hire	376	108	78	30	31	18	29	23	43	16
Not reported	15	3	4	1	.....	1	3	1	2	.....
Common carrier	123	29	22	4	9	7	13	8	23	8
Contract carrier	62	10	12	4	7	2	7	5	10	5
Local haul	176	66	40	21	15	8	6	9	8	3

FULL TRAILERS BY KIND OF TRUCKING IN WHICH USED

NUMBER OF FULL TRAILERS CHIEFLY USED IN EACH KIND OF TRUCKING (Private Ownership Only)

STATE OF GARAGE LOCATION		FOR-HIRE VEHICLES									NOT FOR-HIRE VEHICLES
			Common Carrier				Contract Carrier				
	Total(1)	Not Reported	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Not Reported	Intrastate	Interstate	Intrastate and Interstate	Local Haul	
All States	27,979	216	88	2,401	958	2,123	50	1,433	219	604	1,976	17,911
Alabama	27	.....	.....	4	.....	.....	.....	.....	.....	.....	3	20
Arizona	363	2	.....	25	2	13	.....	2	1	1	51	266
Arkansas	47	.....	.....	2	.....	.....	.....	3	.....	.....	13	29
California	10,344	69	32	1,387	287	725	22	916	49	112	1,033	5,712
Colorado	116	.....	1	16	13	14	.....	3	.....	.....	4	65
Connecticut	141	3	.....	3	6	14	.....	1	.....	2	4	108
Delaware	37	.....	.....	1	1	1	.....	.....	.....	.....	3	31
Florida	796	1	.....	15	6	24	.....	27	4	8	31	682
Georgia	285	2	1	8	2	2	.....	2	.....	.....	17	251
Idaho	345	.....	.....	4	13	61	.....	14	5	3	33	212
Illinois	1,039	10	13	34	54	66	9	18	5	47	51	732
Indiana	209	.....	.....	1	12	23	.....	7	18	.....	5	143
Iowa	134	3	.....	4	7	13	1	3	1	.....	15	87
Kansas	478	8	.....	23	6	27	.....	18	1	4	15	379
Kentucky	21	.....	.....	.....	2	.....	1	4	.....	.....	2	12
Louisiana	307	1	.....	3	.....	5	1	8	.....	4	12	273
Maine	84	.....	1	.....	.....	.....	.....	2	.....	1	14	66
Maryland	238	.....	2	16	22	15	1	4	6	26	18	128
Massachusetts	178	1	.....	28	9	25	.....	.....	5	7	6	99
Michigan	1,718	12	2	195	110	224	1	39	19	87	108	923
Minnesota	342	1	.....	15	1	17	.....	3	2	1	44	258
Mississippi	48	.....	.....	3	2	.....	.....	1	.....	.....	2	40
Missouri	421	3	1	9	10	4	.....	3	5	38	14	334
Montana	166	.....	1	10	6	15	.....	7	9	23	8	87
Nebraska	77	3	.....	5	5	5	.....	4	.....	3	3	49
Nevada	44	.....	.....	.....	4	4	.....	1	.....	.....	1	34
New Hampshire	12	.....	.....	.....	.....	.....	.....	.....	.....	1	1	10
New Jersey	236	2	2	11	5	18	.....	2	4	2	11	179
New Mexico	38	.....	.....	.....	1	1	.....	6	.....	.....	2	28
New York	714	10	1	36	29	49	.....	10	6	9	56	504
North Carolina	100	2	1	3	2	3	.....	4	1	1	10	74
North Dakota	8	.....	1	.....	.....	.....	.....	.....	.....	.....	1	6
Ohio	2,876	4	1	51	94	104	1	184	32	107	47	2,251
Oklahoma	323	2	2	15	26	28	.....	5	3	2	13	227
Oregon	816	25	5	49	28	214	6	7	4	5	47	426
Pennsylvania	1,083	18	1	80	61	68	1	22	22	31	49	730
Rhode Island	104	8	.....	2	9	4	1	4	.....	6	.....	70
South Carolina	269	2	1	9	.....	10	.....	7	1	1	32	206
South Dakota	42	1	.....	.....	1	2	.....	.....	.....	.....	3	35
Tennessee	25	.....	.....	.....	.....	1	.....	1	.....	.....	2	21
Texas	1,044	15	3	44	6	44	1	9	2	2	67	851
Utah	100	1	1	3	58	6	.....	1	.....	7	1	22
Vermont	27	.....	1	1	1	.....	.....	1	.....	.....	6	17
Virginia	277	1	1	7	8	3	.....	2	1	4	14	236
Washington	1,297	4	12	270	31	252	1	47	.....	17	82	561
West Virginia	35	.....	.....	2	8	.....	.....	.....	.....	3	.....	22
Wisconsin	318	1	1	6	8	14	1	30	3	32	20	202
Wyoming	71	1	.....	3	2	.....	1	4	.....	1	1	58
District of Columbia	159	.....	.....	.....	.....	6	1	.....	8	8	3	133

(1) This tabulation excludes 2,438 full trailers of "Public Ownership."

BACK THE ATTACK KEEP 'EM ROLLING
1944 FLEET OPERATOR'S REFERENCE ANNUAL

TRUCKS IN USE BY RATED CAPACITY

STATE OF GARAGE LOCATION	NUMBER OF TRUCKS IN EACH MANUFACTURER'S RATED CAPACITY GROUP									
	Total	Not Reported	Under 1 Ton	1-1¼ Tons	1½ Tons	1¾-2¾ Tons	3-4½ Tons	5-6½ Tons	7-9½ Tons	10-22½ Tons
All States	3,711,137	172,948	1,578,526	257,595	1,376,228	167,514	92,840	40,870	16,253	8,363
Alabama	41,769	46	19,679	1,142	20,000	758	114	21	1	8
Arizona	18,743	462	10,732	1,030	5,224	675	423	146	21	30
Arkansas	53,877	97	36,342	3,184	13,756	383	71	36	2	6
California	284,604	14,928	127,487	19,529	93,552	14,855	7,957	3,705	1,132	1,459
Colorado	51,033	4,892	21,035	2,933	20,180	1,071	730	172	9	11
Connecticut	50,511	254	21,729	4,028	16,258	3,052	2,775	1,458	659	298
Delaware	9,957	14	4,184	825	4,016	476	241	159	36	6
Florida	62,314	1,646	26,603	3,760	25,510	2,098	476	143	23	55
Georgia	62,596	285	32,465	2,692	25,997	944	163	35	4	11
Idaho	25,236	226	12,908	1,204	9,158	963	437	245	47	46
Illinois	208,191	5,137	71,338	18,625	89,730	13,691	5,799	2,623	663	585
Indiana	94,472	25	43,054	6,555	41,052	2,324	1,329	106	9	18
Iowa	86,501	10,390	29,593	7,018	33,853	2,564	1,972	957	110	44
Kansas	92,339	5,158	39,377	9,716	35,352	1,828	687	165	31	25
Kentucky	56,286	295	28,389	4,006	21,756	1,196	521	67	44	12
Louisiana	52,751	47	25,837	2,916	19,653	2,358	1,476	336	54	74
Maine	37,096	134	14,599	1,551	17,624	1,817	918	314	99	40
Maryland	44,104	3,976	13,626	3,480	17,526	3,014	1,726	555	91	110
Massachusetts	91,562	104	31,809	5,292	35,824	8,622	5,468	3,063	963	417
Michigan	116,736	5,936	46,831	7,481	48,035	4,125	2,441	1,428	319	140
Minnesota	106,139	151	41,455	8,483	50,940	2,969	1,595	441	75	30
Mississippi	36,478	62	17,677	1,944	15,348	831	416	151	35	14
Missouri	121,573	4,446	56,485	7,110	49,418	2,607	1,104	328	35	40
Montana	43,716	103	22,173	4,734	15,415	817	346	80	29	19
Nebraska	57,351	327	22,956	5,608	26,626	1,277	445	83	12	17
Nevada	8,097	38	4,858	460	2,084	321	181	110	17	28
New Hampshire	17,503	129	9,010	568	6,303	785	469	180	34	25
New Jersey	104,907	1,049	40,517	8,163	37,906	7,264	5,244	2,981	1,411	372
New Mexico	19,753	275	11,747	929	6,161	409	160	57	11	4
New York	292,932	20,380	96,266	21,038	99,756	23,842	14,608	8,356	6,091	2,595
North Carolina	74,633	48	41,652	3,289	27,344	1,390	713	150	21	26
North Dakota	34,258	36	11,708	7,574	14,355	385	151	25	13	11
Ohio	191,006	46,929	57,590	10,778	63,276	8,633	2,905	717	93	85
Oklahoma	71,173	220	38,659	5,516	24,639	1,401	511	127	64	36
Oregon	60,813	107	32,226	2,894	22,247	1,840	1,079	308	61	51
Pennsylvania	223,795	14,065	85,977	17,160	64,442	17,625	14,649	6,577	2,506	794
Rhode Island	19,984	82	8,557	1,585	4,818	1,771	1,762	893	391	125
South Carolina	35,549	53	16,744	1,678	15,293	1,235	416	98	17	15
South Dakota	27,797	153	10,010	4,643	11,786	919	188	70	10	18
Tennessee	64,584	55	32,944	2,482	27,039	1,557	432	62	6	7
Texas	199,987	28,959	91,613	11,694	58,446	5,950	2,253	698	189	185
Utah	18,366	45	9,774	929	5,961	798	515	263	52	29
Vermont	15,421	25	7,660	566	5,879	741	407	106	27	10
Virginia	70,381	52	29,516	4,415	32,569	2,998	732	74	3	22
Washington	82,115	139	37,772	6,149	29,822	4,407	2,393	903	258	272
West Virginia	43,190	121	24,104	2,507	13,056	2,878	465	46	5	8
Wisconsin	100,364	203	46,401	6,023	40,720	3,817	1,952	848	284	116
Wyoming	14,488	612	7,571	765	4,903	392	176	60	6	3
District of Columbia	14,106	30	5,287	944	5,620	841	849	344	180	11

TRUCK-TRACTORS IN USE BY RATED CAPACITY

STATE OF GARAGE LOCATION	NUMBER OF TRUCK-TRACTORS IN EACH MANUFACTURER'S RATED CAPACITY GROUP									
	Total	Not Reported	Under 1 Ton	1-1¼ Tons	1½ Tons	1¾-2¾ Tons	3-4½ Tons	5-6½ Tons	7-9½ Tons	10-22½ Tons
All States	121,256	10,388	753	648	52,761	22,432	20,171	7,111	2,459	4,533
Alabama	790	4	25	3	689	53	11	1	.....	4
Arizona	552	24	3	3	313	59	85	37	8	20
Arkansas	3,893	8	75	41	3,361	262	101	20	8	17
California	8,348	776	71	45	2,671	1,409	1,607	904	301	564
Colorado	1,033	32	4	1	395	184	322	90	5	.....
Connecticut	694	132	23	6	100	31	104	72	89	137
Delaware	375	.....	2	.....	176	78	84	18	6	11
Florida	2,244	63	24	17	1,335	442	258	36	9	60
Georgia	2,121	9	5	4	1,697	292	77	13	2	22
Idaho	214	4	5	2	93	39	43	21	3	4
Illinois	9,225	1,503	17	17	3,109	2,003	1,885	368	80	243
Indiana	5,231	60	19	70	2,825	1,318	893	31	9	6
Iowa	1,622	201	5	2	551	435	350	45	10	23
Kansas	1,585	70	8	4	790	482	177	36	9	9
Kentucky	552	13	11	83	376	39	27	3	.....	.....
Louisiana	4,085	26	16	12	2,796	625	260	140	86	124
Maine	308	29	17	6	63	33	61	52	21	26
Maryland	1,721	339	3	5	403	271	454	156	18	72
Massachusetts	2,733	163	23	8	240	244	538	517	188	832
Michigan	4,168	149	34	24	2,273	892	471	234	45	46
Minnesota	2,338	4	19	14	1,002	406	761	78	19	35
Mississippi	970	5	14	5	703	118	70	34	15	6
Missouri	5,567	269	27	17	3,374	1,004	768	55	20	33
Montana	387	1	7	4	149	102	112	6	5	1
Nebraska	1,807	10	11	6	966	387	383	37	1	6
Nevada	66	8	.....	.....	20	8	5	6	8	11
New Hampshire	252	27	3	1	40	15	76	34	8	48
New Jersey	3,620	243	12	8	660	417	842	624	399	415
New Mexico	667	8	10	9	409	105	85	20	12	9
New York	7,408	1,340	52	29	1,562	996	1,297	994	445	693
North Carolina	4,216	2	17	10	2,302	789	715	237	36	108
North Dakota	277	2	5	1	88	56	119	4	2	.....
Ohio	10,614	1,922	18	26	4,786	2,263	1,144	304	30	121
Oklahoma	2,269	8	19	12	1,247	498	411	56	5	13
Oregon	3,986	18	12	12	2,122	621	914	217	41	29
Pennsylvania	6,484	837	17	19	812	1,211	1,963	765	331	529
Rhode Island	398	69	12	15	34	29	47	55	25	112
South Carolina	1,669	7	5	2	1,046	238	260	105	3	3
South Dakota	399	5	6	3	162	148	68	4	2	1
Tennessee	1,325	4	2	1	732	411	155	20	.....	.....
Texas	6,535	1,860	32	31	3,042	913	423	147	50	37
Utah	175	7	3	.....	37	30	32	49	14	3
Vermont	201	1	.....	1	28	69	81	17	1	3
Virginia	2,798	7	5	11	1,343	1,143	268	8	3	10
Washington	1,122	22	18	13	331	204	300	152	34	48
West Virginia	608	.....	4	10	175	303	109	7	.....	.....
Wisconsin	8,874	36	27	30	1,085	604	787	232	54	19
Wyoming	450	25	6	3	194	87	112	16	4	3
District of Columbia	280	36	.....	2	54	66	56	34	15	17

FULL TRAILERS IN USE BY RATED CAPACITY

SEMI-TRAILERS IN USE BY RATED CAPACITY

STATE OF GARAGE LOCATION	NUMBER OF SEMI-TRAILERS IN EACH MANUFACTURER'S RATED CAPACITY GROUP									
	Total	Not Reported	1½-1¾ Tons	2-2¾ Tons	3 Tons	3½-4½ Tons	5-6½ Tons	7-9½ Tons	10-14½ Tons	15-22½ Tons
All States	138,816	31,265	12,983	9,391	17,273	7,126	16,507	14,498	4,806	4,949
Alabama	559	71	470	10	2	2	1	.....	3	.....
Arizona	642	298	40	32	18	8	52	48	117	29
Arkansas	3,957	33	3,243	284	152	32	113	26	62	12
California	9,748	2,706	762	429	373	235	919	1,074	1,821	1,429
Colorado	1,222	350	92	151	334	101	103	35	35	21
Connecticut	892	43	11	17	19	11	51	77	452	211
Delaware	391	24	19	22	60	17	62	70	114	3
Florida	2,883	1,067	390	443	142	118	217	126	345	35
Georgia	2,597	1,449	198	103	105	130	159	186	221	46
Idaho	494	156	107	41	30	10	79	30	33	8
Illinois	8,153	1,679	295	502	599	857	977	605	2,577	62
Indiana	5,303	75	401	552	3,960	131	106	36	36	6
Iowa	1,861	693	73	53	157	67	146	322	316	34
Kansas	2,873	694	427	312	462	307	199	135	123	14
Kentucky	584	155	86	160	81	9	28	41	21	3
Louisiana	4,453	1,496	337	160	148	109	647	533	985	38
Maine	421	183	22	27	24	23	17	42	79	4
Maryland	1,700	470	47	26	210	57	240	87	546	17
Massachusetts	3,429	353	33	58	115	102	348	390	1,703	327
Michigan	4,337	1,152	177	202	655	278	984	323	507	59
Minnesota	3,180	270	88	305	517	336	652	433	511	68
Mississippi	914	238	129	51	57	71	151	145	70	2
Missouri	6,980	1,708	334	233	674	339	958	1,301	1,415	17
Montana	417	16	140	119	81	26	18	7	6	4
Nebraska	1,990	830	101	94	86	37	123	268	425	24
Nevada	94	23	8	11	4	1	11	7	18	11
New Hampshire	306	96	6	3	4	5	32	22	134	4
New Jersey	3,733	365	75	131	196	201	423	562	1,146	634
New Mexico	785	215	106	83	72	27	180	19	74	9
New York	8,571	2,171	125	326	653	752	772	873	2,054	845
North Carolina	4,271	59	410	431	536	219	710	718	1,161	27
North Dakota	238	117	12	14	34	13	19	17	6	6
Ohio	12,258	4,107	474	680	2,122	549	1,969	294	1,984	79
Oklahoma	2,987	487	661	499	237	255	394	163	261	30
Oregon	4,568	764	86	80	339	61	259	2,030	683	266
Pennsylvania	7,012	1,935	150	282	599	197	630	1,226	1,739	254
Rhode Island	369	23	7	12	13	27	45	57	175	10
South Carolina	2,381	92	158	123	241	234	823	312	202	7
South Dakota	396	83	18	38	31	18	73	35	95	5
Tennessee	1,385	270	114	153	265	31	131	345	76	.....
Texas	9,283	3,720	1,935	761	499	356	1,126	226	560	100
Utah	264	17	39	32	38	16	71	9	15	27
Vermont	220	13	3	3	1	9	67	65	48	11
Virginia	2,821	45	194	586	1,788	132	28	17	29	2
Washington	1,932	71	54	53	51	70	655	295	613	70
West Virginia	818	11	73	448	113	100	29	24	18	2
Wisconsin	3,445	85	177	175	295	222	594	788	1,052	57
Wyoming	602	276	64	61	40	16	61	28	43	13
District of Columbia	297	31	12	20	39	13	55	24	96	7

FULL TRAILERS IN USE BY RATED CAPACITY

STATE OF GARAGE LOCATION	NUMBER OF FULL TRAILERS IN EACH MANUFACTURER'S RATED CAPACITY GROUP									
	Total	Not Reported	1½-1¾ Tons	2-2¾ Tons	3 Tons	3½-4½ Tons	5-6½ Tons	7-9½ Tons	10-14½ Tons	15-22½ Tons
All States	30,417	10,745	3,876	2,850	2,028	1,555	3,177	1,704	3,566	916
Alabama	29	2	26	1	.....	.....	.....	.....	.....	.....
Arizona	385	165	48	70	3	37	17	9	31	5
Arkansas	49	1	41	5	.....	.....	1	.....	1	.....
California	10,391	3,472	1,971	778	548	496	942	664	316	204
Colorado	154	46	22	32	21	4	14	3	4	8
Connecticut	146	35	5	14	7	1	14	13	47	10
Delaware	50	12	7	4	4	3	13	2	4	1
Florida	847	347	192	120	42	17	57	23	43	6
Georgia	289	183	49	6	8	6	12	4	17	4
Idaho	383	105	60	24	28	15	92	10	26	23
Illinois	1,040	245	45	258	96	159	66	27	131	13
Indiana	276	20	42	19	83	16	28	30	28	10
Iowa	170	78	11	20	5	11	12	1	14	18
Kansas	496	157	124	102	34	24	29	11	12	3
Kentucky	54	17	4	2	6	2	4	1	1	17
Louisiana	324	67	65	16	26	26	51	24	42	7
Maine	101	54	15	6	4	8	8	1	4	1
Maryland	256	118	13	18	17	11	13	19	42	5
Massachusetts	195	22	10	11	9	10	26	11	64	32
Michigan	2,068	748	61	148	182	186	423	128	136	56
Minnesota	399	46	39	93	65	24	31	15	57	29
Mississippi	57	10	18	3	9	.....	9	4	4	.....
Missouri	432	93	97	49	31	33	39	37	46	7
Montana	224	4	49	49	44	14	31	.....	25	8
Nebraska	107	41	18	19	6	8	7	3	3	2
Nevada	56	21	3	7	.....	.....	4	4	7	10
New Hampshire	16	6	1	2	.....	.....	1	1	1	4
New Jersey	243	41	7	39	5	9	28	25	61	28
New Mexico	38	14	7	4	7	1	2	.....	3	.....
New York	1,108	336	52	118	92	37	107	52	180	134
North Carolina	118	8	27	18	8	1	22	7	17	10
North Dakota	8	4	.....	1	1	.....	.....	1	.....	1
Ohio	3,170	2,425	74	120	119	85	138	73	91	45
Oklahoma	355	35	147	76	17	23	22	6	17	12
Oregon	1,010	451	59	64	152	20	103	52	97	12
Pennsylvania	1,096	311	59	80	37	51	97	210	213	38
Rhode Island	112	29	5	11	6	9	10	19	18	5
South Carolina	287	13	30	19	41	61	89	11	18	5
South Dakota	51	16	5	8	2	6	7	3	4	.....
Tennessee	29	1	23	1	2	.....	.....	2	.....	.....
Texas	1,280	751	167	158	33	23	66	13	53	16
Utah	129	11	7	9	12	12	66	3	2	7
Vermont	41	6	2	1	2	3	4	1	4	18
Virginia	293	8	71	77	112	8	4	1	4	8
Washington	1,373	79	18	57	40	42	336	128	623	50
West Virginia	37	1	2	21	2	10	.....	.....	1	.....
Wisconsin	382	34	53	54	43	27	80	38	34	19
Wyoming	67	41	7	9	5	1	10	3	4	7
Dist. of Columbia	176	15	18	29	12	15	42	11	18	18

BACK THE ATTACK KEEP 'EM ROLLING
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Nation-Wide Truck & Trailer Inventory Statistics ★



(CONTINUED FROM PAGE 74)

butane, and 2952 electric (battery type). There were 4314 truck-tractors using fuel or power other than gasoline, of which 3212 were diesel, 1084 butane, and 18 electric (battery type).

TRAILER UNITS

Seventy-five and 79 per cent of all trailers and semi-trailers, respectively, were usually garaged in urban areas.

Practically all trailers and semi-trailers are owned by fleet operators. Ninety-five per cent of all trailers and 93 per cent of all semi-trailers were found to be so operated and averaged 23,300 miles a year and 31,900 miles a year, respectively. Relatively few of these units are publicly owned.

Thirty-three per cent of all trailers and 54 per cent of all semi-trailers are operated for-hire. For-hire trailers average 31,100 miles a year and for-hire semi-trailers average 36,600 miles a year. Most trailers and semi-trailers were found to be operated in several unclassified kinds of business, which reflects the comment previously made that most for-hire carriers are not definitely associated with any particular kind of business. Of those trailer owners who reported business, 18 per cent of all trailers were used in agriculture and 14 per cent in manufacturing; whereas 18 per cent of all semi-trailers were used by manufacturing industries and 17 per cent by wholesalers and retailers.

Seventy per cent of all semi-trailers are equipped with van, cargo, or stake or platform body types and 63 per cent of all trailers have the same three types of bodies. Van-type units average the highest mileage of all body types; 35,200 miles a year for trailers and 37,300 miles a year for semi-trailers. Refrigerated body types were reported for 348 trailers and 4634 semi-trailers, and 2283 trailers and 9794 semi-trailers were reported with tank-type bodies.

The annual average mileage traveled by trailers tends to increase with the rated capacity of trailers from 13,100 miles a year to 28,700 miles a year within the range of 1½-ton to 15-ton capacities. Three-ton capacity semi-trailers average 35,900 miles a year, which is more than any other capacity group.

Forty-six per cent of all trailers and 57 per cent of all semi-trailers are of 1937 year model or older.

These data were tabulated mechanically in a tabulation unit organized for the purpose with the assistance of the Work Projects Administration. A complete file of all detail tabulations is maintained in the office of the Public Roads Administration in Washington, D. C., to which office inquiries or correspondence relative to this work should be addressed. Limited numbers of copies of nationwide summaries of the data are available. For convenience in studying transportation problems in each state, the liaison representative of the Highway Traffic Advisory Committee to each of the nine zone transportation offices of the Transportation Corps has a similar file for local reference purposes covering the states included in the particular zone.

Other Vital Statistics of the Truck Industry on Page 92

ODT PREVENTIVE MAINTENANCE—SHORT GUIDE

The aim of preventive maintenance is to so lubricate and service a truck as to result in its operation for many thousands of miles without the use of new parts.

The techniques of preventive maintenance are to uncover misadjusted, loosened, weakened, or partially worn spots before failure occurs; to clean, lubricate, test, adjust, tighten, and service all parts and entire running gear to prevent failure and wear.

Preventive maintenance assumes that the vehicle is well designed and adapted to the job. No preventive maintenance program will compensate for overloads or abusive service.

The great principle in preventive maintenance is *regularity*. The usual basis for preventive maintenance scheduling has been mileage, but mileage records are frequently difficult to follow in scheduling a vehicle for service. This is especially true now that garage manpower is scarce and garages are busy.

From the shop management viewpoint, a time or day basis is the simplest way of scheduling. Since trucks in any operation usually average about the same weekly mileage, from week to week, it is possible to determine a day and week period upon which the usual 1000-mile and 3000-5000-mile preventive maintenance service can be performed.

For example, city delivery trucks average between 750-1250 miles per month, whereas over-the-road trucks may run this mileage or more in one week. On the basis of these assumptions, city delivery trucks should be lubricated and receive a 750-1250-mile servicing at periods not to exceed one month, and should receive a complete checking and servicing at periods of about three months. The over-the-road trucks will need their lubrications and 750-1250-mile servicing at least once a week, or more often, and should receive the more complete servicing at periods of approximately one month.

The 750-1250-mile preventive maintenance service should include more than a mere grease job. The 3000-5000-mile preventive maintenance service should include a complete cleaning, lubricating, testing, adjusting, tightening, and minor repairing of the entire vehicle.

The 3000-5000-mile inspection work, by its very nature, needs to be done at a fairly well equipped garage. Truck manufacturers, dealers and many independent garages are qualified to give this class of complete maintenance service.

Many detailed preventive maintenance guides are available either from truck manufacturers or from large fleet operators. Any owner can determine exactly the operations he wishes to have his garage perform at the 3000-5000-mile period by reviewing in detail such preventive maintenance guides with the garage manager.

There have been many requests for an ODT standardized preventive maintenance guide procedure. This is a difficult request, due to the many variables and differences in truck operation. However, as a step towards a uniform procedure, ODT is offering, free, a "Preventive Maintenance—Short Guide" for the service work to be done at the 750-1250-mile period. The work outlined in this short guide is more than a simple lubrication job. It covers items that need attention at approximately 1000-mile periods. In addition, all defects found are reported in order to give the vehicle owner a quick idea of the condition of his truck and its need for any immediate and further maintenance.

Copies of "Preventive Maintenance—Short Guide" may be obtained by writing to the Vehicle Maintenance Section, Office of Defense Transportation, Hearing Room A, Interstate Commerce Commission, Washington, D. C.

Many fleet operators are doubling truck payloads by converting small and medium vehicles into trucks of larger capacity with third axles. Operators considering such changes will find much valuable data in this table.

Data covers trailing and driving axles. In both cases the fleet operator will find the extra capacities obtainable; axle weights, types and sizes; loads distribution range; ample spacing; prices, etc.

THIRD AXLE *Specifications*

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BACK THE ATTACK KEEP 'EM ROLLING

NOTES ON HEADINGS

General—(a) The capacity of the third axle (Column 2) is not to be confused with the total capacity made possible on the converted vehicle.

Column 3. The price of the unit includes the standard brakes specified in brake column and frame extensions that extend forward under the cab. Tires and brake (air or vacuum) power are not included in price nor is the cost of installation.

Column 4. Weight of third axle unit includes all appurtenances and maximum tires.

Column 15 gives brake lining area of attachment unit only.

ABBREVIATIONS

‡‡—On application

**—Truxmore—Heavy cast beams (cushioned by patented spring arrangement) used in place of leaf springs

(v)—3¼x3½ (w)—3½x4½

(x)—Patented 4-wheel chain drive available for all Trucktor units

(z)—Depends upon installation

†—OPTIONAL BRAKES

Little Giant—Own or Bendix

Utility—Bendix and Lockheed; Westinghouse "Air"

COLUMN 9

Chev—Chevrolet Own—Own
Eaton Shu—Shuler
Ford—Ford Tim—Timken

COLUMN 10

D—Driving Sr—Solid round
Re—Rectangular Sq—Square
T—Tubular

COLUMN 13

CA—Cast Alloy Iron

COLUMN 12

A—Air
B—Bendix
C—Chevrolet
F—Ford
H—Hydraulic
L—Lockheed
M—Mechanical
O—Own
V—Vacuum power
W—Westinghouse

THIRD AXLE MAKE AND MODEL and Truck Mode Adapted To	Capacity (Lb.) See Explanatory Notes	Price (f. o. b. factory)	Weight (Lb.) with Max. Tires, Frame Extension, Etc.	Maximum Tire Size	LOAD DISTRIBUTION RANGE (First Figure or combination applies to center axle; second figure to third axle)		Axle Spacing (with maximum tires)	AXLE DATA			BRAKES (Standard)				Number of Points of Frame Support	Spring Size or Number Leaves Added	Spindle Diameter (at inner bearing)
								Make	Type	Size	Make and Type	Drum Material	Brake Diameter and Width	Lining Area			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Trailing Axles																	
FABCO																	
215 (Ford)	11000	540	2000	8.25/20	52-48	.....	44	Tim	T	4½	LH	CA	15x3½	192	2	48x2½	2¾
215 (Chevrolet)	11000	540	2000	8.25/20	52-48	.....	44	Tim	T	4½	LH	CA	16x2½	132	2	48x2½	2¾
215 (All other makes)	11000	540	2000	8.25/20	52-48	.....	44	Tim	T	4½	LH	CA	16x3½	205	2	48x2½	2¾
330 (All other makes)	13000	725	3000	10.00/20	52-48	.....	48	Tim	T	4½	LH	CA	16x3½	205	2	55x3	2½
LITTLE GIANT																	
8-ton (For any 1½ ton truck)	16000	488	1575	8.25/20	47-53	.....	42	Shu	Sq	2¾	BHV†	CA	16x3	167	4	42x2½	2½
10-ton (For any 2 ton truck)	18000	750	2000	8.25/20	50-50	.....	44	Shu	Sq	3	BHV†	CA	16x3½	180	4	44x3	3
12-ton (For any 2½ to 5 ton truck)	20000	890	2410	9.75/20	50-50	.....	44	Shu	Sq	3¼	BHV†	CA	17x4	250	4	44x3½	3
TRUCKTOR (x)																	
HLF (Ford 1½)	8800	480	1750	7.50/20	50-50	60-40	43	Own	Sr	3	LHV	CA	15x3½	198	6	38½x2½	2½
HLC (Chevrolet 1½)	8800	480	1750	7.50/20	50-50	60-40	43	Own	Sr	3	CHV	CA	16x3	219	6	38½x2½	2½
HLL (Light truck tires to 8.25/20)	11000	575	1895	8.25/20	50-50	60-40	45	Own	Sr	3	LHV	CA	16x2¼	132	6	38½x2½	2½
HLS (Medium truck tires to 9.00/20)	14000	881	2285	9.00/20	50-50	60-40	48	Own	Sr	3¼	LHV	CA	16x3½	205	6	38½x3	2¾
HLR (Heavy truck tires to 10.00/20)	16000	1098	2710	10.00/20	50-50	60-40	48	Own	Sr	3½	WAM	CA	17¼x4	251	6	40x3	2¾
HR (Heavy duty tires to 12:00/20)	21000	1282	3177	11.00/24	50-50	60-40	52	Own	Sr	4	WAM	CA	17¼x4	251	6	41½x3	3¼
HR5 (Extra heavy duty tires)	30000	‡‡	3358	12.00/24	50-50	60-40	53½	Own	Sr	5½	WAM	CA	17¼x5½	380	6	43½x4	3½
TRUXMORE																	
22 (Not exc. 253 cu. in.)	10000	580	2250	7.50/20-8pl	56-44	65-35	42-43	Own	Sq	2½	LHV	CA	15x3½	200	4	**	2½
26X (Not exc. 271 cu. in.)	12000	657	2500	8.25/20-10	54-46	65-35	44-45	Own	Sq	2¾	LHV	CA	15x3½	200	4	**	2¾
28	13000	790	2700	8.25/20	53-47	65-35	45-46	Own	Sq	3	LHV	CA	16x3½	210	4	**	2¾
32	14000	985	2900	9.00/20	53-47	65-35	46-47	Own	Sq	3	LHV	CA	16x3½	210	4	**	2¾
36	16000	1075	3500	10.00/20	52-48	65-35	47-48	Own	Sq	3¼	LHV	CA	17¼x4	251	4	**	3¼
42	17000	1200	3700	11.00/20	52-48	65-35	48-50	Own	Re	(v)	LHV	CA	17¼x4	251	4	**	3¼
50	18000	1350	4100	11.00/24	50-50	65-35	49-53	Own	Sq	3½	LHV	CA	17¼x5	359	4	**	3¾
50X	25000	‡‡	4400	12.00/24	50-50	65-35	52-53	Own	Re	(w)	M	CA	17¼x5½	400	4	**	3½
UTILITY																	
25 (For any 1½-2 ton truck)	9000	434	1100	7.50/20	55-45	66-33	41	Own	Sq	2½	OMV†	CA	16x4	240	4	None	2¼
30 (For any 3½ ton truck)	13000	683	1600	9.00/20	55-45	66-33	44	Own	Sq	3	OMV†	CA	17x4	264	4	None	2¾
35 (For any 5 ton truck)	18000	752	1900	10.50/24	55-45	66-33	50	Own	Sq	3½	OMV†	CA	17x4	264	4	None	3
300	15000	802	1560	10.50/24	55-45	66-33	44	Own	Sq	3	OMV†	CA	17x4	264	4	8	2¾
Driving Axles																	
FABCO																	
515 (Ford)	10500	1165	2400	8.25/20	50-50	.....	44	Tim	D	....	FH	CA	15x3½	192	2	48x2½	2¾
515 (Chevrolet)	10500	1165	2400	8.25/20	50-50	.....	44	Chev	D	....	CH	CA	16x3	176	2	48x2½	2¾
515 (All other makes)	10500	(z)	2400	8.25/20	50-50	.....	44	Match	D	....	LH	CA	Match	(z)	2	48x2½	z
630 (All other makes)	13000	(z)	3000	10.00/20	50-50	.....	48	Match	D	....	LH	CA	Match	(z)	2	53x3	z
THORNTON TANDEM																	
DF26F (Ford)	11000	1125	6600	34x7	50-50	.....	42	Ford	D	3¾	LH	CA	15x3½	198	4	42x2¼	2¾
DF27FO (Ford) (c.o.e.)	11000	1125	6760	34x7	50-50	.....	42	Ford	D	3¾	LH	CA	15x3½	198	4	42x2¼	2¾
DF29E (Ford)	12750	1250	7220	34x7	50-50	.....	42½	Eat	D	4¼	LH	CA	15x3½	198	4	42x2¼	2¾
DF30EO (Ford)	12750	1250	7380	34x7	50-50	.....	42½	Eat	D	4¼	LH	CA	15x3½	198	4	42x2¼	2¾
DF30E (Ford)	13500	1600	7720	34x7	50-50	.....	44	Eat	D	4¼	LH	CA	15x3½	198	4	43½x	2¾
DF31EO (Ford)	13500	1600	7880	34x7	50-50	.....	44	Eat	D	4¼	LH	CA	15x3½	198	4	2¼	2¾
DC26C (Chevrolet)	11000	1100	6175	34x7	50-50	.....	42	Chev	D	3½	LH	CA	16x3	218	4	42x2¼	2¾
DC27CO (Chevrolet)	11000	1100	6690	34x7	50-50	.....	42	Chev	D	3½	LH	CA	16x3	218	4	42x2¼	2¾
DC29E (Chevrolet)	12750	1550	6795	34x7	50-50	.....	46	Eat	D	3¾	LH	CA	16x3	218	4	46x2¼	2¾
DC30EO (Chevrolet)	12750	1550	7310	34x7	50-50	.....	46	Eat	D	3¾	LH	CA	16x3	218	4	46x2¼	2¾
DC30E (Chevrolet)	13500	1675	7295	34x7	50-50	.....	44	Eat	D	4¼	LH	CA	16x3	218	4	43½x	2¾
DC31EO (Chevrolet)	13500	1675	7810	34x7	50-50	.....	44	Eat	D	4¼	LH	CA	16x3	218	4	2¼	2¾
DD26EH (Dodge)	12750	1250	7020	34x7	50-50	.....	42½	Eat	D	4¼	LH	CA	16x2½	174	4	42x2¼	2¾
DD28EH (Dodge)	12750	1300	7490	34x7	50-50	.....	42½	Eat	D	4¼	LH	CA	16x2½	174	4	42x2¼	2¾
DD30EH (Dodge)	13350	1350	7860	34x7	50-50	.....	48	Eat	D	4½	LH	CA	16½x3½	356	4	47½x2½	2¾
DD34TK (Dodge)	14000	1375	8430	900/20	50-50	.....	48	Tim	D	4½	LH	CA	17½x4	274	4	42x2¼	3¼
DD34EK (Dodge)	16000	1500	8830	900/20	50-50	.....	44	Eat	D	4¾	LH	CA	17x4	407	4	43½x2¼	3

TROUBLE SHOOTING BY { EYE EAR NOSE FEEL



EYE

AIR BRAKES

Slow Pressure Build-Up in Reservoir

Leaking application of brake valve.
Leaking compressor discharge valve.
No clearance on unloader valve.
Leaking lines or connections.
Clogged air cleaner.
Compressor piston and rings worn, carbon in discharge line.

Quick Reservoir Pressure Loss

Leaking valves.
Leaking governor.
Worn and leaking compressor discharge valves.
Tubing or connections leaking.

ELECTRICAL

Lighting equipment fails

Blown fuse.
Bulb burned out.
Short in wiring circuit. Frayed and bare wires.
Erratic headlights: Bulbs loose in sockets. Loose or dirty connections between bulbs and cable terminals. Poor contacts in light switch. Low or discharged battery. Battery plates badly sulphonated. Improperly grounded headlamp bodies or reflectors. Faulty frame to battery ground. Loose contact between lamp body and reflector. Faulty generator action. Intermittent short circuit or ground in wiring assembly. Loose connections at ammeter.

Ammeter Indicates No Charging Rate

Generator inoperative or not charging properly.
Open armature.
Commutator and brushes dirty or greasy.
Cable connections at relay, ammeter, starting switch or battery may be grounded or loosely connected.
Relay points dirty, not properly adjusted or sticking.
Relay base not grounded to generator frame.

OIL

Blue Smoke Coming From Exhaust Pipe

Too much oil in crankcase.
Excessive piston ring wear.
Poor grade fuel.
Defective vacuum pump diaphragm.
Worn valve guide.
Engine overheated. (See "Cooling System" reference under "Ear.")

Excessive Oil Consumption

Piston rings worn, broken or stuck.
Piston rings clogged with carbon.
Cylinder bore out of round or excessive taper.
Cylinder walls scored.
Improper grade or viscosity of oil.
Oil level too high.
Oil leaks at gaskets and seals.
Defective vacuum pump diaphragm.
Worn valve guide.
Excessive bearing clearance.

Low oil pressure

Improper grade and viscosity of oil.
Oil pump screen clogged.
Excessive bearing clearance.
Oil pump worn excessively.
Overheated engine.

No Oil Pressure

Insufficient oil in engine.
Broken oil line.
Oil too heavy to go through screen in pump.
Ice formed on screen in oil pump.

Sudden Drop in Oil Pressure

Insufficient oil.
Engine overheated causing thinning of oil.

Oil Gage Not Working

Broken oil line.

TIRES

Scuffed tires

Wrong pitch or toe-in.
Bent or twisted axle.

Spotty Tire Wear

Under-inflated tires.
Incorrect caster, camber or tram.
Dragging brake drums.
Eccentric or unbalanced wheels.

WATER

Water or Anti-Freeze Lost Too Quickly

Leaks in system.
Overheating (See "Cooling System" reference under "Ear.")

SMOKE

Black Smoke Coming From Exhaust Pipe

Excess carbon in engine.
Fuel mixture too rich.

Smoke Coming From Under Hood

Short in wiring.
Loose fan belt.
Blow-by.
Oil dripping from defective line on exhaust pipe.
Blown exhaust gasket.

Smoke Coming From Wheels

Brake improperly adjusted.
Grease on lining.
Frozen anchors.
Brake cables frozen.
Failure to release emergency brake.

Smoke Coming From Tires

Either dual flat; friction between the two tires starts fire.



NOSE

Odor of gasoline.

Leaky lines or carburetor.

Odor of burning rubber.

Short circuit in wiring.
Wiring fallen on manifold.

Odor of burning oil.

Clutch slipping.

Odor of burning oil.

Overheated engine.
Dry bearings (as fan, etc.)

Odor like burning rags.

Hand brake applied.
Brake shoes improperly adjusted.

Most mechanical breakdowns and troubles are obvious as to their cause and remedy. A smaller percentage elude detection in the beginning and become a source of annoyance as well as lost time until they are located.

To aid drivers and new mechanics in locating that small but greatly troublesome percentage of mechanical failures commonly experienced by vehicles of all ages, Commercial Car Journal editors have compiled this guide. No attempt has been made to be exhaustive or even to cover all units. Selections are in keeping, however, with the units that are most affected by wartime conditions.

Arrangement of this material into groups affecting the senses of sight, hearing, smell and touch was chosen because mechanical difficulties reported by drivers usually are given shop men in this manner.

EAR

ENGINE

Back Firing

Spark plug porcelain cracked or broken.
Sticky valve.
Crossed spark plug wires.
(Through carburetor) Flat spot on the heel of a cam. Broken valve spring.
(Through exhaust) Mixture too lean. Air leaks in manifold.

Blow-By

(In time with piston travel) Insufficient ring tension. Rings too loose in grooves. Out of round and tapered cylinders. Scored cylinder walls.

Clicking

(At all engine speeds) Broken piston rings or loose piston rings in grooves. Too much clearance between valve and tappet. Too much clearance between valve stem and guide. Worn camshaft bearing.
(In time with valve opening and closing) Worn valve lifter and guide.
(In bracket group) Loose rocker arm shaft bracket.
(At arm) Flat spot on rocker arm.
(Light click noticeable only at idling speed) New piston rings in worn cylinders striking shoulder.
(Light, non-metallic click) Broken springs in fuel pump.
(Uneven non-metallic click) Loose or worn magneto, pump or generator couplings.

Cutting Out

(At high speed) Points dirty or incorrectly spaced. Incorrectly set spark plug gaps.

Engine Runs with Switch Off

Excessive carbon in engine.
Engine overheated.
Spark plug heat range not correct.

Exhaust Gas, Sharp Discharge

(Passing valve stems) Worn valve stem guide. This noise is confined to overhead valve engines.

Hissing

(Intermittent, on a hard pull) Air leaks in manifold.

Humming

Timing chain adjusted too tight.
Oil too heavy or too light.

Idling, Uneven

Ignition incorrectly timed.
Sticking automatic spark advance.
Fuel mixture too rich.
Fuel mixture too lean.
Air leaks in manifold.
Spark plug gaps too wide.
Points dirty or too widely spaced.

Knock, Heavy

(On hard pull and noticeable on all cylinders) Carbon knock.
(Irregular, at low speeds and detectable by disengaging clutch) End-play in crankshaft.
(At engine idling speed, in time with valve opening or closing) Worn valve lifter rollers or pins.
(At high engine speed) End-play in camshaft.

Knock, Light

Loose wrist pin.
(When engine is running idle, knock coming regularly at end of each connecting rod stroke) Loose connecting rod bearings. Loose or eliptical engine bearings.

Knock, Sharp Metallic

Worn pistons and cylinder walls.
Misaligned connecting rods.
(In time with crankshaft speed) Loose piston pins or worn piston pin bushings.
(At all speeds) Connecting rods bent or twisted.
(Under load or rapid acceleration) Piston slap. Worn pistons or cylinders. Tight piston pins.
(Noticeable only at idling speed) New piston rings in worn cylinders striking shoulder. Loose piston struts.

Missing Engine

Battery terminals loose or corroded.
Broken valve springs. Weak valve springs; usually confined to hydraulic valve lifters.
Cracked, short-circuited or fouled spark plugs.
Distributor points out of adjustment.
Rotor contact corroded.
High tension cable grounded, or loose connection.
Low tension cable grounded, or loose connection.
Loose or short-circuited wiring connection to coil and distributor.
(One cylinder, one exhaust stroke) Bent valve, sticking valve or burned valve.

Noisy Engine

Loose cylinder block.
Valve clearance too great.

Pounding, Heavy

(In time with crankshaft speed under heavy loads) Loose, worn or burned-out main bearings.
(At all engine speeds, more noticeable when slowing down) Loose flywheel.
(At varying speeds) Metal chip wedged between teeth or timing gear.

Pinging

Improper valve timing.
(On a hard pull) Mixture too lean.
(Light ping, on a heavy pull) Fuel knock or detonation; ignition timed too early or sticking automatic spark advance.

Popping (back through carburetor)

Broken valve spring.
Insufficient valve clearance.
Valves not seating properly or incorrectly timed.
Exhaust valve head too thin, causing hot sections.
Air leaks in manifold.
Excessive carbon in engine, causing preignition.
Blown cylinder head gasket.
Poor fuel.
Weak valve springs.
Hot spot in cylinder head, usually caused by clogged passages.

Rattling

Broken valve springs.
(At idling speed) Worn timing gears or chains. Timing gear loose on shaft. Loose water pump impeller. Excess wear between impeller and housing. Worn bushings on accessory shaft. Loose generator pulley.

Scraping

(Inside timing case) Improperly adjusted timing chain. Worn bushings on accessory shaft.

(Turn to Next Page, Please)

Trouble Shooting By Eye . . . Ear . . . Nose . . . Feel

(Continued from Page 85)

Sluggish Engine

Dirty points or points too closely spaced.
Excessive carbon.
Valve or ignition timing incorrect.

Spark Jumping

Poor insulation on high tension wires.

Squeak

(In time with piston travel) Insufficient clearance at ring gap.
(On fast acceleration) Slipping fan belt.
(At idling speed) Fan bearing dry.

Stalling (when running idle)

Cold engine.
Retarded spark.
Carburetor throttle lever set too low.
Spark plug gaps too large.
Idling mixture too rich or too lean.
Carburetor fuel level too high.
Dirty points, or incorrectly set.

Thumping, Heavy

(At all engine speeds) Too much pressure. Air-lock on plunger-type oil pumps.

Uneven Engine Operation

(At high speeds) Weak valve springs.
(When engine first started, during warm-up period)—Improper automatic choke adjustment.
Valves not properly seated.

Vibration

Valves not seating properly.
Engine missing.
(At idling speed) Loose engine support bolts.

Whistling (at high speed)

Fan bearing dry.
Water pump shaft bearing dry.
Dry distributor shaft bearing.

BRAKES (All Types)

Chattering

Grease on lining.
Lining loose on brake shoes.
Shoes improperly adjusted.
Loose backing plate.

Click

(On brake application) Backing plates loose. Drums loose on hubs.

Grunting (when applying brakes)

Broken spring bolts.
Loose clips.

Hissing (in air brakes)

Air escaping as a result of leaking application of brake valves, leaking compressor discharge valve, leaking line or connections, leaking governor, leaking brake chamber diaphragm.
Improper seating of valves.

Pounding (on rough road)

Loose wheel bearing.

Rattling (over rough roads)

Broken spring bolts.
Loose clips.

Roaring (at various speeds)

Front wheel bearings loose.

Scraping (on light application)

Drums out of round.
Lining worn down to rivets or shoe.

Squeaking (when applying brakes)

Too great clearance between lining and drum.
Lining dust or road dust in assembly.

Squealing, Brake

Anchors incorrectly set.

Squealing (of tire)

(On application) Cable or rod control incorrectly set. Brake lining dragging. Anchors incorrectly set. Grease on lining.
(On sudden application) Brake shoes not centralized within drum—either too great to contact or high pressure.

Thumping

(When turning corners and over rough roads) Loose rear wheel bearings.
(On hard application) Drums out-of-round.

CLUTCH

Chattering, Upon Engagement

Loss of tension in facing cushioning plates.
Incorrect type of facing.
High spots on friction facing.
Friction facing coated with gum.
Release shaft tight in housing.
Facings loose on driven plate.
Drive plate loose at hub.
Excessive lash in power transmitting units.
Driven plate tight on transmission pinion shaft splines.
Clutch case or pressure plate assembly loose on flywheel.
Pressure plate cracked or broken.
Incorrect assembly.
Loose engine support bolts.

Clicking When Engaged (Pedal Released)

Driven plate hub loose transmission pinion splines.
Driven plate hub bolts loose.
Driven plate dampener springs broken.

Grabbing

Causes usually same as for Chattering.

Grating When Disengaged (Pedal Depressed)

Release bearing worn, dirty, damaged, broken or inadequately lubricated.
Release bearing binding in release shaft arms.

Scraping (Spinning, Dragging) When Disengaged (Pedal Depressed)

Incorrect pedal adjustment—too much pedal lash.
Incorrect release lever adjustment.
Warped or distorted center driven plate.
Facing cushioning plates distorted.
High spots on friction facings.
Driven plate facings incorrectly instaleld or loose.
Driven plate hub tight on pinion shaft splines.
Rough, distorted or burred pinion shaft splines.

Slipping

Driver riding pedal.
Grease or oil on friction facings.
Badly worn or burned friction facings.
Insufficient or no pedal lash.
Release shaft tight in housing.
Weak or broken pressure springs.
Friction facings improperly installed on driven plate.
Incorrect type friction facings.
Toggle levers improperly adjusted.
Improper assembly.

Squeaking When Disengaged (Pedal Depressed)

Release bearing worn, dirty, damaged, broken or inadequately lubricated.
Release bearing binding in release shaft arms.
Crankshaft clutch pilot bearing worn, damaged, broken or inadequately lubricated.
Toggle levers improperly adjusted and bottoming against driven plate hub.

Rattling

Toggle levers unevenly adjusted.
Clutch case sprung by improper installation.
Release shaft arms not parallel.
Release shaft bent.
Pedal pull back spring missing or broken.
Misalignment between transmission and engine assembly.
Fly wheel not properly seated on crankshaft flange.
Bent crankshaft fly wheel flange.

Vibration

(Noticeable when slight pressure is applied on the pedal.) Causes may be same as for Rattling.

COOLING SYSTEM

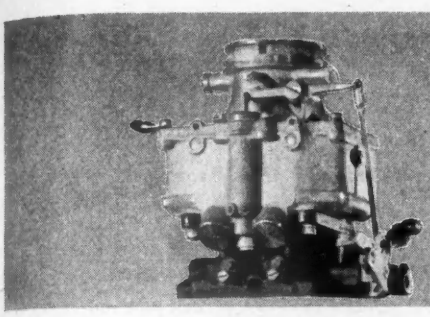
Gurgling

Frozen radiator.
Insufficient supply of water.

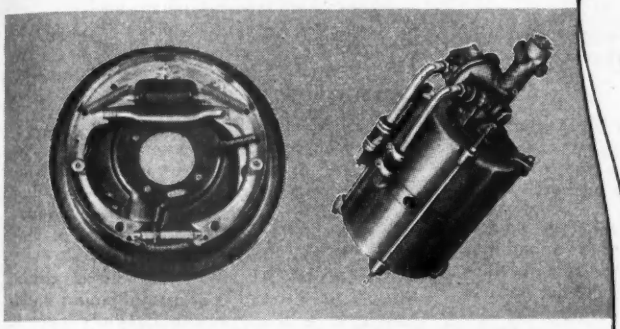
Hissing

Frozen radiator.
Insufficient water in radiator.
Coolant overheated as a result of: Obstructed flow through radiator. Radiator

(Turn to Page 88, Please)

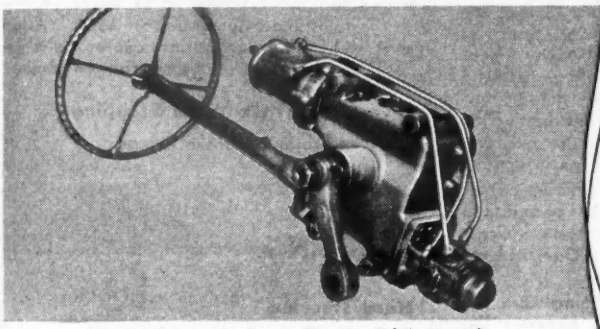


In millions of vehicles, Stromberg Carburetors contribute to better engine performance.*



Bendix Brakes hydraulic and mechanical for safer, smoother stopping.*

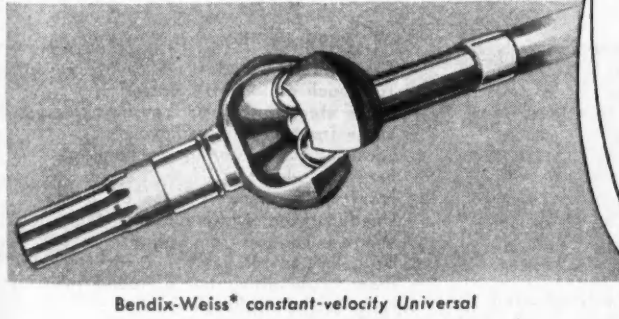
Hydrovac one-unit vacuum power braking system for simpler installation and maintenance.*



Bendix Hydraulic Power Steering (illustrated in combination with Ross Steering Gear) replaces muscular effort with hydraulic control.*



Bendix Cleaner cleans automotive parts in record time.*



Bendix-Weiss constant-velocity Universal Joint for smooth power transmission.*

A Message to America's

ENGINEERS

The inventive genius of America's automotive and aviation engineers has confounded the Axis and amazed the entire world. Your leadership in providing our armed forces with new and superior weapons—planes, tanks, guns and other supplies—is helping win decisive victories on every battle front.

We here at Bendix have enjoyed working with you in adapting Bendix peacetime products to wartime uses. Like you, we also are looking forward to the day of final Victory and to the privilege of serving you even more effectively than before. Then Bendix* Brakes, Stromberg* Carburetors, Hydrovac* Vacuum Power Brake units and other battle-proved products will be again available for civilian transportation in many new applications calling for dependable performance.

THE INVISIBLE CREW
Precision Equipment by
Bendix Aviation Corporation

BENDIX PRODUCTS DIVISION
SOUTH BEND, INDIANA

***THE INVISIBLE CREW:** Stromberg *Carburetors, Bendix* Brakes, Hydrovac* Vacuum Power Braking Systems, Bendix Hydraulic Power Steering*, and Bendix-Weiss* Universal Joints are all important members of "The Invisible Crew"—precision equipment which more than 30 Bendix plants are speeding to world battle fronts.*

** Trademark of Bendix Aviation Corporation.*

Trouble Shooting By Eye . . . Ear . . . Nose . . . Feel

(Continued from Page 86)

core covered with paint. Tubes, passages or hose pinched, dented or collapsed. Inside of tubes or passages clogged with sediment. Hose rotted internally, permitting lining to impede circulation. Bent or loose baffle plate. Leak in overflow pipe. Pinched overflow pipe. Thermostat not functioning properly. Incorrect radiator core. Shutter not opening fully. Radiator covered too much. Over-supply of anti-freeze (alcohol). Anti-freeze not removed. Loose, missing or slipping fan belt. Fan pulley worn too smooth or too wide in groove. Fan bearings tight, dry or defective. Fan blades pitched too flat. Water pump not working. Worn pump shaft, impeller or packing. Lack of engine oil. Oil pump not circulating efficiently. Oil too heavy, thin or diluted. Improperly timed ignition. Sticking spark advance. Improper valve timing. Valves not properly seating. Pistons and rings not properly fitted. Excessive piston ring wall pressure. Scored cylinder walls. Insufficient clearance at ring ends. Air leaks in manifold. Fuel mixture too lean. Improper regulation of heat control.



FEEL

ENGINE

Excessive vibration in engine

Loose engine mounting support.
Several cylinders not firing properly.

Lack of power

Loss of compression, valves not seating.
Late spark causes sluggishness and overheating.
Plugged muffler.
Incorrect valve timing.
Air leak at intake manifold.
Slipping clutch.
Dragging brakes.
Low or poor compression.
Fuel pump not functioning properly.
Air leaks at intake manifold.
Cylinders scored or worn excessively.
Weak or broken valve springs.
Valves sticking in guides.

Jerky in slow speeds or when stopping

Engine needs tuning, or drive line needs lubrication.

BRAKES

Brakes Won't Hold

HYDRAULIC BRAKES: Master or wheel cylinders sticking. Fluid too thick or sluggish.

MECHANICAL BRAKES: Mechanical linkage set wrong. Grooves worn on inside of conduit by cable sets up friction. Cross shaft incorrectly set. Pedal pull-rod set in wrong hole.

ALL TYPE BRAKES: Lining not correctly burnished to drum diameter. Shoe not properly centered on drum. Grease on lining. Highly glazed lining. Drums tapered, poor contact between drum and lining. Anchors incorrectly set. Pull-back springs installed wrong.

Brakes Drag

HYDRAULIC BRAKES: Sluggish fluid. Collapsed hose. Sticking cylinders. By-pass port blocked.

MECHANICAL BRAKES: Mechanical linkage on rear wheel emergency brake set up too tight. Linkage set up too tight and shoes are pulled away from anchors.

ALL TYPE BRAKES: Shoe ledges worn or rusty. Frozen anchors, pins and bushings. Axle shift due to broken spring center bolt. Shoe guides too tight. Pull-back springs too weak. Loose wheel bearings.

Low Brake Pedal

HYDRAULIC BRAKES: Fluid low in master cylinder. Air in hydraulic line. Too much clearance between pedal push rod and master cylinder piston. Master check valve too weak, thereby failing to keep hydraulic preloaded. Master cylinder partially or completely closed, restricting the flow of fluid from supply tank to cylinder. Weak brake hoses expand. Leak in system.

MECHANICAL BRAKES: Worn cables and conduits. Bent pull rods permit too much play in mechanical linkage. Cross shaft improperly adjusted. Cam blocks worn.

ALL TYPE BRAKES: Brake lining worn too thin. Too great a clearance between lining and drum. Broken spring bolts or loose clips allowing axle to shift on brake application.

Severe Trailer Brakes

Defective or wrong type relay valve
Power cylinders too large.
Hand valve improperly installed.
Non-graduated type of foot valve used.
No synchronizer valve.

Slow Air Brake Application

Low brake line pressure (brake valve to chambers).
Brake chamber push-rod travel excessive.
Restriction in lines.
Leaking brake valve diaphragm.
Leaking brake chamber diaphragm.
Brake lining or drum condition.

Slow Air Brake Release

Brake valve lever not returning fully to stop.
Binding cam or camshafts.
Brake chamber push-rod travel excessive.
Restriction in tubing or hose.
Improper seating of valves.
Weak or broken return springs.

Slow Trailer Brakes

Power cylinder too small.
Moisture in line or relay valves.
Synchronizer valve improperly adjusted.
Synchronizer valve defective.

Slow Vacuum Brake Release

Diaphragm or cylinder pull rods bent or out of line cause binding.
Dirt clogged relay valve air cleaner.
Dirt in relay valve.
Weak or collapsed vacuum hose.
Restriction in control line.
Leak in check valve.

Spongy Brake Pedal

HYDRAULIC BRAKES: Inferior grade of fluid which compresses under brake application. Air or gas bubbles in line. Master cylinder primary cup leaking allowing fluid to by-pass into reserve cylinder. Clogged master cylinder port retarding flow of fluid into cylinder. Brake hoses weak.

MECHANICAL BRAKES: Brake cables stretched or kinked rods straightening under pressure. Brake cables or conduits loose in supports. Cross shafts incorrectly set.

ALL TYPE BRAKES: Brake shoes set with too close a clearance at the heel. Brake drums too thin resulting in excessive expansion when under pressure or heat. Axles shift due to broken spring center bolts or "U" bolts. Shoes not centered on drums.

Swerve in Truck When Stopping

Oil or water on brake linings.

STEERING

Hard steering

Tires under-inflated.
Excessive friction in tie rod or drag link joints.
Abnormal friction in steering gear assembly.

Steering wander

Tires under-inflated.
Zero or reverse caster.
Exsessive error in toe-in.
Axles shifted in springs.
Tight steering assembly or gear.
Loose wheels.

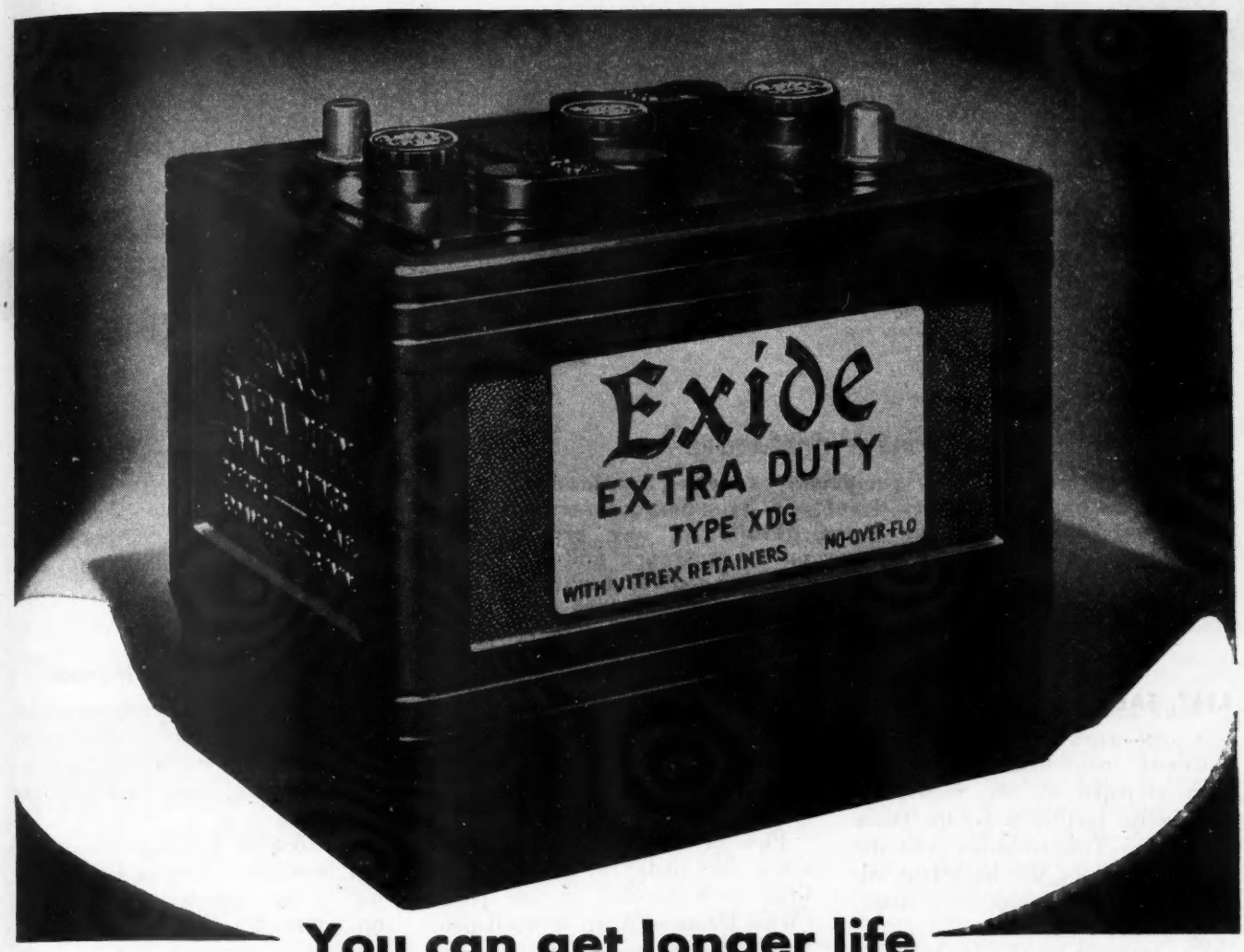
High speed shimmy

(Items applicable to low speed shimmy).
Front wheels wobble.
Front wheels out of balance.
Ruptured or weak spot in tire, resulting in distortion due to centrifugal force.
Dragging front wheel brakes.

Low speed shimmy

Tires under-inflated.
Too much or too little caster.
Loose steering knuckle bearings.
Loose front wheel bearings.
Loose or worn steering mechanism.
Eccentric wheels.
Front spring hangers loose on frame.
Unequal front wheel camber.
Weak or sagged front springs.
Drag link out of line.
Front brake drums out of round (shimmy only on brake application).

END



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EXIDE Batteries show, wherever used, a long record of unfailing, economical service. Today, that's especially important. With a shortage of labor and materials, any product that will last longer is contributing to the cause. *And quality merchandise is bound to last longer.*

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TO MAKE YOUR EXIDES LAST, FOLLOW THESE RULES:

1. Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
2. Keep the battery securely held in its compartment at all times. A battery container properly installed and kept clean on top, will assure maximum protection of the inner parts.
3. Keep the battery fully charged but avoid excessive over-charge. Check the voltage regulator setting frequently—use accurate instruments.
4. Record water additions, gravity readings and voltage regulator settings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

If you wish more detailed information, or have a special battery problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 2924.

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FOR FLEET OPERATORS

The latest in shop equipment, supplies, replacement parts and accessories developed by manufacturers for fleet operators. For more details of any product described, fill in the number on the postcard and mail. No stamp needed. Also use the postcard for additional information on any product advertised in this issue.

L167. SAE-ODT Front-End Guide

A thorough and authoritative front-end maintenance report has been prepared by the Society of Automotive Engineers for the Office of Defense Transportation with the object of making this important job as efficient and positive as mechanically possible.

The report is based on recommendations of manufacturers and repair shops. It explains the importance of steering maintenance both as to safety and overall maintenance economy. Moreover, it stresses the importance of training maintenance supervisors and mechanics to be constantly on the alert to the possibility of wear and the symptoms that denote deterioration in the steering mechanism.

Every fleet operator is urged to secure a copy of this report. The importance of having complete and up-to-date data on this subject cannot be overstressed because badly adjusted or misaligned steering mechanism will ruin tires faster than any other mechanical defect. Simply write L 167 on the free postcard. Fleet operators making this request are put on ODT's mailing list to receive all future SAE-ODT reports.

L168. Tire Trouble Manual

One of the most informative booklets on truck tire care recently released, particularly timely now because of the critical shortages in this field, has just been published. Titled "How To Prevent Truck Tire Failures," copies are available to all fleetmen upon request.

Pictures and brief text tell a dramatic story under the following subtitles, each handled on one page: "What Happens When Overinflation, Overload and Impact Get Together," "What Happens When a Fast Moving Tire Meets an Immovable Object," "How a Little Tread Bruise Can Grow Into a Big Tire Blowout," "What Too Much Heat Can Do to a New Truck Tire," "What a Tread Bruise Begins, Heat Usually Finishes," "How Overloaded Tires Die Before Their Time," "How Overloading Wears Tires from the Inside Out," "What a Sharp Impact Can Do Even to the Best Tire," "How Soft Tires Can Cut Their Own Throats," "How Mechanical Defects Rob You of Rubber," and "Why Duals Should be Twins."

Your copy will be mailed when you write L 168 on the free postcard.

L169. Synthetics Repair Bulletin

One of the leading tire manufacturers has released information that it has published an eight-page, 8½ x 11 in. bulletin explaining and illustrating the proper procedure for cold patch tube repairs, reinforced vulcanized tube repairs and GRS Synthetic Tire Repairs. Supplied also is a curing chart for reinforced repairs.

The technique for these repairs is different from natural rubber repairs and every fleet operator should avail himself of the latest authoritative data on this subject. Extra copies for shop men will be supplied. Write L 169 on the free postcard.

L170. Brake Relining Manual

A new and complete reference book on truck brake relining is being offered to interested fleetmen. It is an 80-page book, well prepared and illustrated.

An idea of the contents can be had from the following partial listing of its contents: A step-by-step procedure for relining brakes; a glossary of common brake relining terms; hydraulic systems; mechanical hand systems; electric systems; vacuum power systems; selection of type of lining and brake balancing; compressed air systems, etc.

Handy trouble shooting charts offer many time-saving hints. Get your copy by writing L 170 on the free postcard.

L171. Lubrication Manual

Filled with down-to-earth facts about lubrication and lubricating equipment, this manual answers many questions on a wide range of fleet lubrication problems. Text is thoroughly handled and well illustrated.

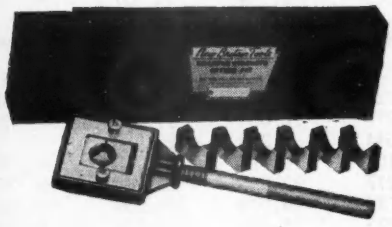
Inasmuch as lubrication is the first step in the conservation of any piece of rolling or moving equipment, fleet operators will do well to peruse the text thoroughly for the many profitable suggestions along this line. Sufficient copies are available so that all persons handling lubricants can be provided with a personal copy. To get the quantity desired simply write L 171 and amount on the free postcard.

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NEW PRODUCTS

P194. Axle Rethreading Dies

Fleetmen who have had trouble with burred and damaged axle threads will appreciate this tool made by New Britain Machine Co., New Britain, Conn. It reconditions abused threads so that even jobs that look hopeless can often be reclaimed.



In the rethreading operation, the die is placed over the thread, tightened by turning the handle and then backed off. Because the dies are made from high grade tool steel, they will withstand a lot of wear. Also, because of the construction, it is possible to tighten the die evenly at all times.

The dies come in two sets, one for trucks and the other for passenger cars. A priority rating of AA-5 or higher is required.

Use Free Postcard For More Details.

P195. Pneumatic Tire Spreader

Here is a portable, air-cooled tire spreader that can be used anywhere the air hose can reach. However, it is supplied with a wall bracket that can be mounted at some convenient spot where tire repairs are centered. It is manufactured and marketed by The Bishman Mfg. Co., Minneapolis.

The accompanying illustration shows the complete outfit, which consists of the spreader, at the top; bead props, below, to hold the tire open while spreader is released for other work; and the wall bracket, above, which has two rollers to permit easy handling of the tire during inspection and a protected light that makes it possible for the mechanic to see inside the casing clearly.

To operate the spreader, it is only necessary to press thumb lever. Heavy duty tires, as well as others, can be spread to 11 in., providing



ample working space. Pressure on release lever closes the tire.

Use Free Postcard For More Details.

P196. New Floor Cleaner

Kelite Products, Inc., Los Angeles, has just introduced a new heavy duty floor cleaner. This product is known as Kelite No. 158.

The outstanding feature of this product is effective removal of grease, especially where heavily accumulated.

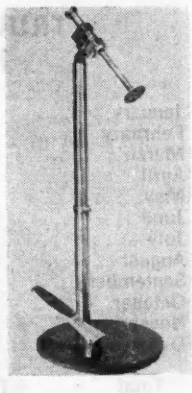
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VALUABLE AIDS FOR FLEETMEN

A selected list of the latest literature — books, pamphlets and catalogs — intended to help fleet operators solve maintenance and operating problems. They are more valuable today than ever before. All are free. To get your copies simply fill in the numbers on the postcard and mail. No stamp is needed.

P197. Valve Reclaiming Tool

A stand and tool that has real advantages in the reclaiming of engine valves is now available to fleet owners. It is known as the Kor-Valoy Valve Machine and is made by the C. A. Kerkling Metals Co., Hollywood, Cal. The stand is 42½ in. high. A treadle arrangement turns the valve by the pressure on the foot treadle, and leaves both hands available for the welding process.



This same company has a welding rod metal known as Kor-Valoy which, it is claimed, "forms a homogeneous bond with the original valve metal to provide a new, smooth, hard-faced surface, highly resistant to abrasive wear and unaffected by extremes of engine temperatures."

Use Free Postcard For More Details.

P198. Portable Utility Tank

A new type of portable heating and dipping tank, including an acid compartment, has been developed by the Heil Engineering Co., Cleveland.

(Turn to Page 208, Please)

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK

KEEP 'EM ROLLING

★

VITAL STATISTICS OF THE TRUCK INDUSTRY

REGISTRATION STATISTICS ON PAGES 94 AND 96

TRUCK PRODUCTION BY CAPACITIES (U. S.)*

1940	Light	Medium	Heavy	Total
January	32,976	23,775	11,484	68,235
February	30,838	22,427	10,289	63,554
March	32,204	24,816	11,839	68,859
April	32,498	24,296	10,109	66,903
May	30,731	21,819	9,143	61,693
June	27,292	21,036	9,400	57,728
July	26,427	24,202	10,679	61,308
August	8,780	11,213	6,038	26,031
September	20,545	13,082	9,563	43,190
October	36,919	25,046	12,243	74,208
November	36,691	28,712	11,684	77,087
December	38,249	31,355	11,940	81,544
Total	354,150	271,779	124,411	750,340
1941				
January	43,555	31,128	12,947	87,630
February	42,423	31,242	15,020	88,685
March	45,427	32,437	15,176	93,040
April	38,622	32,212	10,652	81,486
May	45,334	35,049	19,231	99,614
June	42,399	36,573	17,827	96,799
July	41,527	40,843	14,330	96,700
August	25,576	28,909	10,380	64,865
September	23,528	30,878	5,031	59,437
October	30,953	35,974	18,735	85,662
November	34,398	40,931	18,965	94,294
December	25,889	48,039	20,130	94,058
Total	439,631	424,215	178,424	1,042,270

1942	Light	Medium	Heavy	Total
January	27,546	49,573	15,161	92,280
February	15,460	43,224	17,757	76,441
March	22,020	46,774	19,814	88,608
April	23,035	20,820	19,427	63,282
May	22,743	13,352	24,031	60,126
June	28,108	21,589	23,160	72,857
July	30,141	11,729	21,136	63,006
August	28,088	10,220	20,955	59,263
September	26,980	11,649	20,671	59,300
October	26,661	8,720	20,986	56,367
November	24,413	8,503	18,293	51,209
December	25,645	9,114	19,697	54,456
Total	300,840	255,267	241,088	797,195
1943				
January	23,727	7,019	18,639	49,385
February	23,314	6,453	17,553	47,320
March	27,544	8,268	20,065	55,877
April	23,107	9,717	23,273	56,097
May	21,217	12,696	21,244	55,157
June	20,734	14,070	21,658	56,462
July	20,925	16,024	23,321	60,270
August	19,944	17,809	23,520	61,273
September	21,089	16,094	20,254	57,437
October	22,046	17,807	20,145	59,998
November	21,717	15,120	20,132	56,969
December	23,074	13,910	22,273	59,257
Total	268,438	154,987	252,077	675,502

* Automotive Division, War Production Board.

These data cover actual production of trucks in the United States for military and civilian use. Jeeps, military ambulances and wheel-drive personnel carriers are included, but not half-tracks or armored cars. Light trucks are those up to 9,000 lb. gross vehicle weight; medium 9,000 to 16,000 lb.; and heavy 16,000 lb. and over gross vehicle weight. For 1940 and 1941 the classifications were: light, up to 1½ tons, carrying capacity; medium, 1½ to 2½ tons and heavy, 2½ tons carrying capacity and over.

TRUCK PRODUCTION BY MONTHS (U. S.)*

	1940	1941	1942	1943
January	68,235	87,630	92,280	49,385
February	63,554	88,685	76,441	47,320
March	68,859	93,040	88,608	55,877
April	66,903	81,486	63,282	56,097
May	61,693	99,614	60,126	55,157
June	57,728	96,799	72,857	56,462
July	61,308	96,700	63,006	60,270
August	26,031	64,865	59,263	61,273
September	43,190	59,437	59,300	57,437
October	74,208	85,662	56,367	59,998
November	77,087	94,294	51,209	56,969
December	81,544	94,058	54,456	59,257
Total	750,340	1,042,270	797,195	675,502

* Automotive Division, War Production Board.

Truck Production

(U. S. & Canada)

	Number
1904	411
1905	450
1906	500
1907	700
1908	1,500
1909	3,255
1910	6,000
1911	10,681
1912	22,000
1913	23,500
1914	25,375
1915	74,000
1916	92,130
1917	128,157
1918	227,250
1919	275,943
1920	321,789
†1921	164,304
†1922	277,140
†1923	426,505
†1924	434,140
†1925	557,056
†1926	556,818
†1927	497,020
†1928	588,983
†1929	826,817
†1930	599,991
†1931	434,176
†1932	245,282
†1933	358,548
†1934	599,397
†1935	732,005
†1936	818,377
†1937	947,502
†1938	530,425
†1939	757,553
†1940	889,884
†1941	1,270,647

Foreign assemblies of parts made in U. S. but assembled abroad are included in this table.

† Figures for 1921 to date are "factory sales" for U. S. plants and "production" for Canadian plants.

TRUCK PRODUCTION BY MONTHS, BY YEARS

(U. S. and Canada)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	
January	57,765	40,938	35,475	21,160	19,429	44,870	64,529	68,655	74,995	58,062	64,093	74,016	100,850	January
February	65,950	52,925	41,863	24,291	15,592	44,952	63,204	65,938	72,939	51,464	63,606	71,690	104,172	February
March	79,587	69,031	47,671	21,274	18,508	61,068	70,520	81,875	96,016	52,106	77,107	75,285	111,589	March
April	91,855	74,477	53,138	28,539	27,975	67,532	69,338	91,049	100,324	47,818	68,086	76,807	102,786	April
May	94,940	62,080	47,805	27,491	35,132	60,348	59,324	79,379	96,965	41,575	63,793	74,139	117,817	May
June	98,164	51,466	41,496	23,572	43,448	48,292	65,785	81,185	91,820	41,857	66,964	67,787	118,757	June
July	78,703	44,960	35,386	15,137	39,310	44,546	61,582	71,383	83,996	38,336	62,750	74,005	121,300	July
August	59,985	43,296	32,890	15,319	42,601	53,890	58,942	63,794	87,802	35,259	40,868	41,533	83,104	August
September	54,683	46,557	31,876	20,003	35,874	46,335	33,229	47,496	55,033	20,174	27,560	56,703	78,413	September
October	56,235	41,928	22,406	14,157	30,772	49,643	60,203	35,359	31,939	22,390	65,079	86,104	100,166	October
November	50,368	37,493	20,118	12,560	19,106	35,107	60,720	54,628	67,508	54,638	73,407	93,068	110,788	November
December	28,582	34,840	24,052	21,782	30,801	42,814	64,829	77,636	88,165	66,756	84,260	98,747	120,905	December
Total	826,817	599,991	434,176	245,285	358,548	599,397	732,005	818,377	947,502	530,425	757,553	889,884	1,270,647	Total



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A busy wholesale market forms a fitting background for this scene by Peter Helck showing another of the essential civilian jobs being handled by Mack trucks.

LITTLE MACKS ARE "GIANTS" TOO

The phrase "Built like a Mack truck" rode into our language on the shoulders of big, tough Macks doing big, tough jobs. *But it covers lots more ground than that today!* From light trucks up to the largest ones built . . . . owners are learning that Mack is another name for *ruggedness* in trucks of any size. *You can't measure quality by the ton.* You can measure it in terms of the work you get for the dollars you spend. Measured that way . . . *every* Mack's a giant!

Mack Trucks, Inc., Empire State Building, New York, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J. Factory branches and dealers in all principal cities for service and parts.

Mack

TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS

BUY U. S. WAR BONDS

IF YOU'VE GOT A MACK, YOU'RE LUCKY...IF YOU PLAN TO GET ONE, YOU'RE WISE!

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING
★

VITAL STATISTICS OF THE TRUCK INDUSTRY

(CONTINUED FROM PAGE 92; OTHER STATISTICS ON PAGE 96)

NEW TRUCK REGISTRATIONS BY MAKES*

(Data for 1942 not available. See table of U. S. New Truck Registrations by Months)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941††
Autocar	2,941	2,009	1,748	1,015	1,127	1,139	1,001	1,451	2,181	1,617	2,044	1,955	2,510
Brockway	4,533‡	3,780‡	1,685‡	752	875	1,213	1,245	1,695	1,593	1,303	1,815	1,672	2,294
Chevrolet	160,892	118,253	99,600	60,784	99,880	157,507	167,129	204,344	183,674	119,479	169,457	194,038	212,797
Diamond T	3,590	2,888	2,483	2,250	4,139	5,440	6,454	8,750	8,118	4,393	5,412	6,358	6,077
Dodge	28,567	15,558	13,518	8,744	28,034	48,252	61,488	85,295	64,098	33,656	48,049	54,615	62,925
Federal	2,853	2,095	1,523	1,167	1,360	1,962	2,190	2,930	2,339	1,370	1,837	1,617	1,611
Ford	223,405	197,216	139,854	66,937	62,397	128,250	185,848	177,244	189,376	100,959	128,889	163,333	174,024
G. M. C.	14,248	9,004	6,919	6,359	6,602	10,449	11,442	26,980	43,522	20,152	34,908	42,486	45,703
Hudson							638	1,905	4,823	719	409	761	736
Indiana				957	1,252	729	862	1,705	1,371	435	178		
International	31,434	23,703	21,073	15,752	26,658	31,555	53,471	71,958	76,174	55,836	66,048	77,891	92,482
Mack	6,823	4,943	2,945	1,425	1,652	1,830	1,515	4,226	5,513	4,406	6,670	7,754	9,468
Plymouth							660	2,420	13,709	6,652	8,294	9,573	7,732
Reo	12,894	6,427	5,166	3,187	3,042	5,035	5,101	4,227	4,254	2,929	853	625	1,543
Sterling	1,577	1,244	739	227	108	134	174	277	311	267	326	341	400
Stewart	2,162	2,315	1,394	867	684	736	880	1,280	1,148	390	70		
Studebaker	1,661	1,518	3,495	2,430	2,407†	1,697	2,100	3,279	5,129	2,000	2,110	1,207	5,076
White	6,121	4,395	2,561	2,138	1,384	3,963	3,304	5,757	5,933	3,514	4,558	7,344	9,271
Willys	6,536	4,264	3,131	1,132	233	25	2,280	2,441	1,122	1,889	1,634	2,291	2,031
All Others	16,819	11,107	7,050	4,290	4,035	3,970	2,901	3,480	3,861	3,383	3,187	3,486	4,015
Total	527,057	410,699	313,884	180,413	245,869	403,886	510,683	611,644	618,249	365,349	486,748	576,327	640,697

* Data from R. L. Polk & Co.
‡ Includes Indiana. † Includes Rockne. †† Does not include Federal government deliveries which are included in other years.

NEW TRUCK REGISTRATIONS BY STATES*

(Data for 1942 not available. See table of U. S. New Truck Registrations by Months)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941†
Alabama	10,456	6,186	3,536	1,982	4,054	8,051	9,925	13,187	12,874	7,041	11,978	12,928	15,260
Arizona	3,061	1,899	1,295	566	1,036	2,167	3,126	3,510	3,659	2,051	2,478	2,838	3,468
Arkansas	7,911	3,478	2,613	1,467	3,638	4,960	7,383	9,485	10,836	5,909	9,200	10,890	13,636
California	30,835	27,930	19,992	10,732	13,788	20,496	28,934	33,656	36,901	23,846	25,656	32,397	39,453
Colorado	6,382	5,840	3,887	2,001	2,488	5,196	6,086	9,060	8,411	4,771	5,935	6,308	6,502
Connecticut	7,828	5,928	5,540	3,056	4,246	6,124	7,318	8,240	7,787	4,422	5,466	6,888	7,736
Delaware	1,444	1,205	967	597	828	1,115	1,425	1,723	1,882	1,161	1,488	1,630	1,983
District of Col.	2,328	1,850	2,202	1,368	1,362	1,979	2,492	2,940	2,857	1,753	2,514	2,614	2,906
Florida	5,395	6,121	5,255	2,894	4,186	8,046	8,274	9,412	10,722	6,540	9,375	12,485	12,197
Georgia	6,768	4,998	4,779	2,544	5,260	7,921	10,887	12,941	12,998	6,818	11,702	15,468	15,742
Idaho	2,572	2,389	1,620	673	1,545	2,817	4,004	4,939	4,454	2,613	3,346	3,854	4,359
Illinois	26,584	20,037	14,786	7,863	11,764	17,584	23,046	31,123	30,451	18,055	25,353	29,535	31,692
Indiana	14,462	10,534	9,025	4,849	6,121	11,123	18,009	20,027	18,269	9,899	16,857	16,575	19,347
Iowa	11,445	10,038	7,899	4,154	5,449	9,860	12,754	12,999	12,449	8,940	12,245	13,790	14,585
Kansas	12,648	9,298	5,550	3,119	4,292	7,170	9,605	11,406	12,409	7,960	7,079	9,815	12,508
Kentucky	6,037	5,366	4,326	2,819	4,195	6,815	9,089	10,870	11,597	7,244	9,908	10,490	11,395
Louisiana	7,314	4,705	4,311	1,844	2,882	5,359	7,201	9,753	10,111	6,155	8,185	9,695	9,907
Maine	4,785	4,521	4,600	2,240	2,614	4,262	4,104	5,337	5,658	3,315	4,317	5,278	5,646
Maryland	7,055	6,038	4,864	2,953	3,818	5,457	6,657	7,382	7,783	4,741	6,307	8,054	9,138
Massachusetts	16,969	13,711	12,609	7,290	9,511	12,887	14,514	15,350	16,235	9,459	12,931	14,392	15,211
Michigan	25,585	15,818	10,722	6,402	9,085	16,281	21,104	24,840	24,549	11,268	17,704	21,622	22,186
Minnesota	11,282	10,292	7,580	4,858	5,722	9,255	12,740	14,144	13,555	8,674	10,528	12,566	13,103
Mississippi	6,977	5,518	1,137	1,476	2,752	5,414	6,573	10,367	11,176	5,826	8,472	10,604	10,408
Missouri	16,047	14,844	10,979	7,645	8,535	12,920	16,200	20,142	19,170	11,718	16,338	19,701	22,135
Montana	4,338	2,596	1,874	1,150	2,055	4,215	5,939	5,930	5,044	4,112	4,561	5,359	5,544
Nebraska	8,144	6,957	4,540	2,108	2,713	5,411	6,297	6,996	6,202	4,664	5,449	6,146	7,754
Nevada	934	635	648	320	233	638	1,006	1,210	1,167	731	876	1,133	1,130
New Hampshire	2,491	2,290	2,038	1,152	1,783	2,731	2,490	3,196	3,022	1,759	2,748	3,012	2,879
New Jersey	17,587	14,764	13,051	7,505	7,401	11,444	13,165	16,935	18,446	11,591	12,725	14,710	16,909
New Mexico	2,157	2,006	1,560	817	1,395	3,150	4,058	4,545	5,089	2,911	3,732	4,119	4,093
New York	48,984	38,951	32,792	19,943	20,200	30,383	35,805	39,159	41,922	26,656	32,109	35,721	36,203
North Carolina	9,618	6,483	6,821	3,620	6,597	11,185	13,265	14,286	15,691	9,309	12,867	14,750	18,078
North Dakota	4,144	2,419	1,436	786	1,107	2,389	3,144	2,680	3,193	2,463	2,740	3,790	4,671
Ohio	27,338	20,111	14,291	8,753	11,150	20,487	22,772	30,028	28,440	15,261	22,536	26,509	30,389
Oklahoma	12,937	8,112	4,060	2,594	4,941	8,944	11,768	14,737	14,702	8,956	10,198	11,484	13,844
Oregon	5,819	4,193	3,099	1,451	2,488	3,780	5,964	8,050	7,859	4,064	5,873	7,212	8,973
Pennsylvania	37,258	30,120	23,396	15,618	19,991	29,891	32,097	41,919	39,150	21,044	28,915	36,107	38,426
Rhode Island	2,953	2,116	2,027	1,152	1,598	2,035	2,088	2,594	2,749	1,531	2,283	2,664	3,039
South Carolina	4,760	3,709	2,959	1,213	2,604	4,228	5,481	6,091	7,357	4,305	6,431	7,634	7,978
South Dakota	4,160	3,093	1,673	704	996	2,252	3,020	2,962	2,659	2,003	2,752	3,407	3,538
Tennessee	5,851	5,087	3,285	2,031	3,623	6,366	9,518	11,062	10,799	6,476	9,732	12,797	13,901
Texas	33,381	22,237	15,742	8,819	13,889	24,854	32,437	38,903	40,905	25,882	33,426	38,599	44,296
Utah	2,610	2,218	1,591	758	1,568	2,530	3,498	3,571	3,298	1,984	3,034	3,095	3,256
Vermont	2,027	1,670	1,339	972	1,311	2,048	2,394	2,308	2,444	1,228	2,076	2,325	2,887
Virginia	9,989	8,917	6,823	4,105	5,667	8,508	11,402	12,904	12,928	7,906	10,391	12,748	15,938
Washington	8,325	6,680	4,640	2,471	4,002	6,199	9,076	10,668	10,222	5,416	7,149	9,306	10,672
West Virginia	5,299	4,551	3,552	1,844	2,988	5,847	6,646	9,181	9,269	4,694	6,604	7,800	8,570
Wisconsin	14,393	12,058	8,399	4,522	5,411	9,313	13,118	16,237	16,412	8,516	10,949	13,051	14,744
Wyoming	1,481	1,182	1,174	613	937	1,799	2,206	2,661	2,627	1,708	2,232	2,432	2,503
Total	527,057	410,699	313,884	180,413	245,869	403,886	510,683	611,644	618,249	365,349	486,748	576,327	640,697

* Data from R. L. Polk & Co. † Does not include Federal deliveries which are included in other years.

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MIDLAND VACUUM POWER BRAKES

with Fully Compensating Relay Control Valve

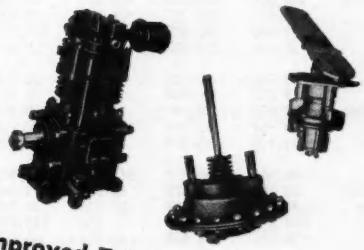
This exclusive feature safeguards your trailer trains—permits any degree of brake application with corresponding "brake feel". Perfect synchronization between the tractor control valve and Midland's fully compensating relay valve keeps all braking in perfect time—increasing safety and ease of operation. Write for complete details, or see your distributor.

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3. Your choice of Diaphragm Chambers or Cylinders.

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1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK KEEP 'EM ROLLING ★

VITAL STATISTICS OF THE TRUCK INDUSTRY

(CONTINUED FROM PAGE 94; OTHER STATISTICS ON PAGE 92)

U. S. NEW TRUCK REGISTRATIONS BY MONTHS, BY YEARS

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941††	1942*	
January	29,900	30,236	24,415	14,776	11,709	22,903	34,759	43,760	47,618	31,995	37,715	45,650	50,830	23,356	January
February	32,637	31,880	23,466	14,558	9,797	24,476	34,797	40,301	41,843	27,551	34,102	41,336	50,124	10,311	February
March	46,368	42,199	30,609	16,874	9,934	33,884	41,511	52,428	60,301	37,255	45,083	63,093	62,413	8,277	March
April	56,299	47,029	36,848	17,784	17,301	38,882	46,785	64,956	67,832	35,632	46,083	55,982	64,236	5,985	April
May	52,874	43,286	33,496	18,696	20,925	39,831	47,988	62,183	65,857	32,937	45,381	51,553	64,177	8,754	May
June	45,114	33,531	28,496	17,876	23,254	34,768	48,243	56,851	58,626	30,647	40,482	43,504	62,265	4,424	June
July	57,943	39,904	30,102	14,731	30,642	37,490	51,243	63,695	61,686	33,475	44,747	50,913	67,412	4,375	July
August	52,557	33,787	27,070	15,081	28,799	40,790	50,355	59,222	60,872	34,231	43,523	48,980	56,191	3,125	August
September	46,560	33,933	25,967	14,967	31,269	37,225	41,390	54,611	54,711	26,570	32,983	39,224	43,892	3,428	September
October	49,899	34,237	24,685	15,156	28,058	40,878	37,439	41,220	40,246	19,589	37,923	48,356	41,352	2,243	October
November	33,631	22,012	15,553	10,392	18,691	28,689	36,935	30,255	27,248	23,943	41,286	46,618	36,799	2,642	November
December	23,275	18,685	13,177	9,522	15,580	24,070	39,258	42,162	31,409	31,474	37,460	51,095	41,005	5,235	December
Total	527,057	410,699	313,884	180,413	245,869	403,888	510,683	611,644	618,249	365,349	486,743	†576,327	640,697	82,205	Total

† Contains 23 delinquent registrations which cannot be assigned to any one month. †† Does not include Federal Government deliveries which are included in other years.
* Data for Jan., Feb., and March are R. L. Polk New Truck Registrations; data for April through November are the number of releases granted by W. P. B. for new trucks for civilian use; December data includes both military and civilian releases.

TOTAL TRUCK REGISTRATIONS BY STATES

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
Alabama	37,976	33,972	31,575	29,838	34,101	38,989	44,272	53,070	50,780	54,947	58,707	65,909	66,026	65,606
Arizona	12,045	12,633	14,687	14,569	16,791	17,964	20,183	22,973	22,998	24,083	25,243	26,689	28,093	27,020
Arkansas	28,986	31,275	22,989	32,980	35,700	40,107	50,131	59,263	53,789	60,535	66,158	77,191	75,267	71,916
California	230,837	245,213	234,177	220,087	237,566	253,908	*‡268,379	*‡284,132	*‡300,483	*‡309,855	*‡326,998	*‡350,261	*‡344,566	*‡327,304
Colorado	31,662	32,082	30,357	27,433	27,858	28,430	*31,930	32,795	31,447	30,636	30,298	31,044	31,784	68,887
Connecticut	51,196	52,227	51,388	52,564	55,878	62,232	60,653	68,070	63,910	66,273	74,456	79,256	54,918	53,563
Delaware	10,576	*9,991	*8,666	*8,485	*9,394	*9,692	*10,010	*10,314	*10,519	*11,248	*11,030	*13,969	*13,416	*13,576
District of Col.	16,943	18,185	18,286	16,742	17,263	17,610	19,397	18,862	14,287	13,718	13,928	13,809	14,646	15,037
Florida	53,096	51,724	37,955	45,019	55,359	57,199	65,738	70,308	71,871	76,320	79,790	87,706	80,919	84,132
Georgia	47,119	46,264	42,050	51,212	60,262	66,079	73,269	78,803	76,154	85,520	91,321	99,506	96,655	93,817
Idaho	14,551	15,435	14,030	14,884	17,861	21,371	25,852	28,208	27,809	31,380	33,538	36,515	34,807	35,583
Illinois	207,584	201,509	177,820	*186,186	*174,235	*185,477	*208,926	*220,639	*222,582	*232,888	*228,889	*234,703	*233,386	*221,634
Indiana	128,397	129,826	122,019	116,361	122,791	132,767	131,767	140,292	122,168	129,695	134,215	135,834	138,648	124,195
Iowa	72,190	78,414	74,882	69,490	75,350	80,529	82,840	86,636	*92,884	*93,139	*101,244	*108,985	*103,487	*96,112
Kansas	*83,139	*80,484	*71,778	*72,404	75,565	*80,088	*87,113	*93,046	*97,744	*98,616	102,665	113,872	119,725	119,168
Kentucky	35,841	34,969	31,621	32,111	37,445	43,613	51,840	59,341	63,373	69,629	75,891	81,663	77,412	74,000
Louisiana	44,697	47,783	41,853	42,007	44,779	59,398	76,251	80,630	80,167	84,475	81,793	93,305	73,638	74,750
Maine	37,435	38,771	36,203	35,271	37,693	38,079	39,276	43,171	42,663	41,673	43,914	45,748	42,074	41,959
Maryland	37,832	36,080	41,529	34,726	45,351	48,526	53,398	52,014	53,926	58,027	59,160	60,876	60,627	58,639
Massachusetts	102,918	103,888	102,959	99,854	98,508	100,411	102,400	104,316	104,134	106,624	109,462	110,650	109,783	104,253
Michigan	*167,158	*152,635	*123,273	*121,639	*123,405	*127,283	*139,520	*148,117	*113,631	*90,796	*117,500	*129,599	*131,153	*96,653
Minnesota	108,070	108,435	101,650	99,130	103,882	105,861	114,448	117,632	115,970	118,227	124,602	129,710	123,213	116,026
Mississippi	33,651	*30,721	*25,164	32,924	34,115	33,306	43,357	53,072	51,486	57,097	60,927	64,119	61,744	60,900
Missouri	*91,455	*95,975	*29,265	*103,795	107,709	115,819	*128,425	*134,457	*133,666	*141,609	*152,924	*164,546	*159,342	*148,608
Montana	25,619	*24,037	*20,521	*27,480	*31,087	*35,542	*39,311	*40,081	*41,138	*44,480	*47,964	*51,476	*48,695	*45,390
Nebraska	58,642	59,848	52,294	53,947	56,560	59,054	62,133	63,667	66,988	65,632	68,016	71,283	70,328	71,726
Nevada	6,257	6,950	6,527	5,927	6,391	6,875	*7,680	*8,092	*7,525	5,811	6,571	9,524	10,037	9,300
New Hampshire	19,028	18,671	17,378	19,872	22,382	23,455	*22,023	23,768	*23,597	*24,964	30,062	32,118	32,569	27,195
New Jersey	133,154	133,361	128,604	122,228	123,351	124,866	130,642	134,458	132,714	132,819	137,126	141,329	140,928	137,115
New Mexico	†13,700	15,884	15,020	15,290	16,112	18,245	22,731	31,117	26,915	28,488	30,090	30,806	28,559	28,645
New York	340,749	330,813	313,765	298,508	298,379	306,919	326,404	333,543	327,474	350,693	363,110	348,819	330,323	278,417
North Carolina	56,108	54,575	50,262	49,660	54,766	57,931	65,000	73,383	74,211	81,068	87,457	96,320	93,922	97,000
North Dakota	27,636	26,588	23,590	*25,342	26,315	28,780	29,650	32,084	33,061	34,544	37,019	40,788	41,935	44,397
Ohio	204,270	*191,929	167,492	*158,189	*159,845	*170,954	*172,273	*180,484	*177,314	*184,223	*190,654	*192,000	*193,325	181,865
Oklahoma	59,384	54,585	44,884	65,957	73,928	82,855	90,638	98,675	92,943	98,172	103,391	107,903	109,586	101,969
Oregon	22,437	22,950	34,477	32,208	41,411	42,584	49,748	60,660	59,829	62,749	67,756	75,533	75,217	74,724
Pennsylvania	218,687	219,812	216,334	219,497	215,016	229,026	249,637	257,330	255,654	289,062	263,112	274,967	274,745	275,052
Rhode Island	19,631	19,565	18,416	17,965	18,332	18,428	19,458	19,768	20,010	19,699	20,743	21,174	21,876	20,575
South Carolina	26,261	23,439	19,722	17,795	20,877	29,761	33,525	39,835	41,379	44,142	39,070	50,638	48,341	49,257
South Dakota	24,977	33,516	19,542	22,764	23,832	26,931	28,172	28,788	28,494	30,282	32,298	34,952	34,856	35,028
Tennessee	37,823	33,976	31,434	33,848	37,755	42,031	49,368	55,736	61,724	67,053	70,687	81,022	74,285	68,000
Texas	206,757	210,991	191,452	188,676	228,276	257,055	285,839	294,639	316,757	335,467	350,208	388,863	297,526	287,223
Utah	17,869	17,577	16,096	16,348	17,103	17,587	22,000	21,094	22,432	25,209	23,584	24,208	24,905	25,549
Vermont	8,226	8,453	8,309	7,924	8,612	9,031	8,682	9,029	9,042	9,576	9,628	10,327	9,858	10,207
Virginia	57,307	56,633	62,344	57,266	57,268	60,376	57,689	67,547	66,410	68,723	74,720	83,594	83,048	80,878
Washington	63,188	60,082	63,826	62,548	64,321	68,657	79,500	84,577	83,204	85,494	93,395	94,772	93,517	94,042
West Virginia	40,373	39,359	32,916	33,415	27,253	29,305	36,908	44,558	43,785	49,289	51,520	49,541	49,321	47,124
Wisconsin	105,110	113,773	108,047	104,347	120,180	130,144	150,779	145,822	135,413	141,590	147,661	153,087	143,087	136,371
Wyoming	9,922	10,713	9,879	10,643	13,102	14,593	15,592	17,368	17,589	18,090	19,062	20,474	20,192	20,014
TOTALS	3,486,019	3,466,571	3,229,315	3,227,357	3,409,335	3,655,705	3,981,755	4,107,244	4,184,109	4,363,329	4,589,537	4,825,978	4,624,310	4,442,301

* Includes buses. † Large increase due to reclassification of trucks previously carried as passenger cars. ‡ Includes light commercial vehicles registered as passenger cars.

TOTAL U. S. TRUCK REGISTRATIONS BY YEARS (1904-1941)

		% Gain			% Gain			% Gain			% Gain			% Gain
1904	410	...	1912	41,400	107	1920	1,006,082	27	1928	3,113,999	7	1936	3,981,755	9.1
1905	600	46	1913	63,800	54	1921	1,117,100	11	1929	3,379,854	8	1937	4,107,244	3.1
1906	1,100	83	1914	85,600	34	1922	1,375,725	23	1930	3,486,019	3	1938	4,184,109	2.0
1907	1,700	55	1915	136,000	59	1923	1,612,569	17	1931	3,466,571	−.6	1939	4,363,329	4.3
1908	3,100	82	1916	215,000	58	1924	2,134,724	32	1932	3,229,315	−.7	1940	4,589,537	4.8
1909	6,050	95	1917	326,000	52	1925	2,440,854	14	1933	3,227,357	−0.6	1941	4,825,978	5.8
1910	10,000	65	1918	525,000	61	1926	2,764,222	13	1934	3,409,335	5.5	1942	4,624,310	−4.1
1911	20,000	100	1919	794,372	51	1927	2,914,019	5	1935	3,655,705	7.1	1943	4,442,301	−4.1

Truck-Trailers... ONE ANSWER TO THE *Truck* SHORTAGE!



TODAY America's problem is to move more tonnage more miles with an inadequate number of motor trucks.

Truck-Trailers provide one logical answer, because they enable motor trucks to do more work—by at least doubling each truck's carrying capacity.

Very few heavy-duty trucks are being built today—military requirements prohibit it. But this lost tonnage-moving capacity can be offset if the light and medium-duty trucks which are being produced are coupled to Trailers.

CAPACITY ONLY ONE FACTOR

Aside from taking up much of the slack in our nation's motor truck capacity, Trailers contribute in several other important ways:

Since Trailers enable trucks to haul at least double their normal loads, mileage per ton moved is cut in half—with a substantial reduction in the use of rubber and gasoline.

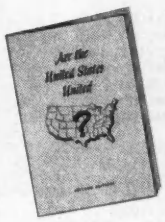
There is a similar saving in steel. No other type of land transportation moves so much with so little of this vital material.

And, even more important is the fact that doubling truck capacity means doubling the work-output of each driver—and manpower shortage is one of the most serious problems of the motor transport industry.

TAKE OFF THE SHACKLES

Truck-Trailers do provide one logical answer to the truck shortage — but their contribution to America at war can be still greater *if the individual States will remove the shackles which prevent their operation at peak efficiency!*

These shackles are in the form of conflicting and restrictive State laws governing vehicle sizes and weights, duplicate license fees, special taxes — some 300 laws in all which affect the operation of motor trucks and trailers.



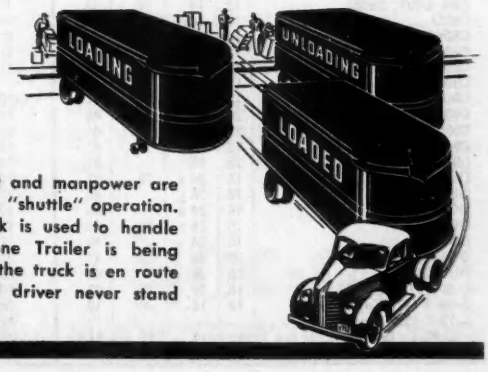
You can help to correct this situation —and it is a situation which plays a part in the life of every citizen. As step one, send for the booklet, "Are the United States United?" and learn where your own State stands.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY, DETROIT

Service in Principal Cities

INVEST IN VICTORY
BUY WAR BONDS



FRUEHAUF Trailers
"ENGINEERED TRANSPORTATION"
REG. U. S. PAT. OFF.

FURTHER SAVINGS in equipment and manpower are made when Trailers are used in a "shuttle" operation. "Shuttling" means that one truck is used to handle two or more Trailers. While one Trailer is being loaded and a second unloaded, the truck is en route with a third Trailer. Truck and driver never stand idle for loading or unloading.

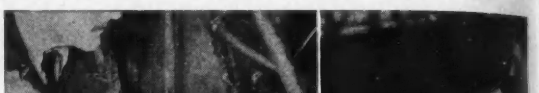
LUBRICANT AND COOLING CAPACITIES OF TRUCKS

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING
★

In the interest of oil conservation, lubricants should be added and changed according to the capacities specified by the truck manufacturers rather than poured in until they overflow through the level hole. Wartime shortages also make it necessary to measure anti-freeze carefully to prevent serious damage to the cooling system.

These tables will be very helpful to the employees entrusted with the important job of safeguarding the cooling system and preventing wear by lubrication, especially with labor changes occurring constantly.



a—2-speed rear, 8 qt.
b—Double reduction rear, 6½ qt.
c—Double reduction rear, 9 qt.
d—Front axles same as rear.
e—10 summer, 14 winter.
f—2-speed rear, 13 to 15.
g—2-speed rear, 18.
h—Auxiliary transmission and power divider require 8½ qt. additional.
i—Each axle.
j—10 summer, 15 winter.
k—18 pt. summer, 24 pt. winter.
m—8 pt. summer, 12 pt. winter.
n—Capacity of jacksbaft unit.
p—Auxiliary transmission requires 6 pt. additional.
q—Auxiliary transmission requires 10 pt. additional.
r—For overdrive transmission, direct drive requires 18 pt.
s—14 for heavy-duty axle and for 2-speed axle.
x—Auxiliary transmission requires 5 pt. additional.
y—Auxiliary transmission requires 12 pt. additional.

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
AUTOCAR				
A, UA	6	8	8	22
B, UB	6	12	14	22
RL, RLD, RM, RMT, 1TR, 6X2RL, RLS, URLS	10	14	12	23
D, DP	10	14	12	39
UD, 1UTR	10	14	12	37
UDP, 6X2UD	10	14	12	37
S	12	30	18	39
N, DH, 3TR	12	14	18	39
6X2NF	12	18	18	39
DF, 2TR, 6X2DF	12	14	12	39
T, NF, 5TR, 6X2T, UNF, UT, 4UTR, 5UTR, 6X2UNF, 6X2UT	12	18	18	41
UN, 2UTR, 3UTR, 6X2UN, US	12	14	18	41
UDF	12	14	12	41
C	12	30	18	41
4X4DF, 4X4N	12	19	.....	39
4X4NF	12	23	.....	39
4X4S	12	23	.....	41
6X4DF	12	14	.....	39
6X4TO, 6X4UTO, 6X4UTD	12	18	.....	41
6X4TD	12	30	.....	41
6X4TC	12	30	28	41
RB, URB	10	12	12	23
C10, C10T, U10, U10T	6	8	8	22
C20, C20T, U20, U20T	6	12	12	22
C30, C30T, U30, U30T	10	12	12	23
C40, U40	10	14	12	23
C40T, C40D, C4062, U40T, U40D, U4062	10	14	14	23
C4064	10	14	12 i	23
C50T, U50T	10	14	14	23
C50D	10	16	20	23
C60	12	14	14	39
U60	12	14	14	37
C60T, C70, C70T, C70D, C7062	12	14	20	39
U60T, U70T, U60, U60T, U60D, U6062	12	14	18	41
U60D	12	14	18	37
U70, U7062	12	14	20	41
C7044	12	14x	.....	39
C7064	12	14	12 i	39
U7064	12	14	12 i	41
C80, C80T, C8062	12	14	18	39
C80D	12	14y	18	39
C8044	12	14 x	.....	41
C8064, U8064	12	14	18 i	41
C90, C90T, U90, U90T	12	14	18	41
C90D	12	14 y	.....	41
U90D	12	24	.....	41
C9044	20	24 x	.....	48
C9062, U9062	12	14 y	18	41
C9064	12	14 y	.....	41
U9064	12	14	.....	41
DC100T	16	24 y	18	46
DC100D	16	26 y	.....	46
DC10044	16	24 x	.....	46
DC10062	16	26 y	18	46
DC10064	16	24	.....	46
DU100T, DU10062	20	26	18	41
DU10064	20	26	.....	41
C-50-T, C-50 (1944)	10	14	20	23
C-70-T (477 Eng.) (1944)	12	14	20	39
C-70-T (501 Eng.), C-70, C-90-T (1944)	12	14	18	41

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
AUTOCAR—Cont.				
C-90 (1944)	12	14 y	18	41
DC-100-T, DC-10062 (1944)	20	18 y	18	40
DC-10064 (1944)	20	18 y	28	40
BANTAM				
60	3	2½	2½	4
65	3	2½	2½	5½
BROCKWAY				
78 (1936-42)	5	6	8	15½
83 (1936-42)	5	6	8	19½
88 (1936-42)	5	6	8	19½
92 (1936-42)	5	6	8	19½
94 (1936-42)	5	5½	12	19½
98, 110, 125X (1936-40)	8	5½	8	28
112 (1938-42)	7	5½	8	22
128 (1938-42)	7	5½	12	22
130, 145 (1936-40)	8	5½	12	28
150X4 (1936-40)	8	8½	12	28
150X5 (1936-40)	8	16	12	28
160X, 160XSBT, 165X (1936-40)	8	16	12	30
170X (1936-40)	10	24	11	29
180XSBT Spec. (1936)	10	24	13	30
175X, 195X (1936-42)	10	24	12	30
220X (1936-42)	10	24	17	30
240X (1936-42)	10	24	12	31
280X (1936-42)	10	23	17	31
146 (1941-42)	7	12	12	22
147 (1941-42)	7	12	16	22
152, 153 (1941-42)	8	16	12	28
154 (1941-42)	8	16	16	28
156 (1941-42)	8	16	18	28½
162 (1941-42)	8	16	12	29
166 (1941-42)	8	16	12	29½
CHEVROLET				
½ Ton (1934-35)	5	2½	4½	10½
1½ Ton (1934-35)	5	6½	6½	10½
½ Ton (1936)	5	2½	4½	15
1½ Ton (1936)	5	6½	7	15
½, ¾, 1 Ton (1937-38)	5	1½	4½	14
1½ Ton (1937-38)	5	7	9	14
½, ¾ Ton (1939-42)	5	1½	4½	14
1½ Ton (1939)	5	5½	9	14
1½ Ton (1940-42)	5	5½	11 s	14
C.O.E. (1939)	5	5½	9	16½
C.O.E. (1940-42)	5	5½	11 s	16½
1½ Ton (1944)	5	5½	11 s	16
CORBITT				
12B (1937)	6	8	12	26
22B (1937)	8	24	14	30
14BT (1937)	8	8	8	26
18BT (1937)	8	24	14	30
22BT (1937)	10	30	16	38
27DT (1937)	10	30	16	38
12B (1938-41)	5	6	12	26
13B (1938-41)	5	8	8	27
17B, 17BT (1938-44)	7	12	14	28
21B (1938-41)	8	16	15	30
26D (1938-41)	8	16	16	30
14BT (1938-41)	7	12	8	29
18BT (1938-41)	8	16	14	31
22BT (1938-41)	10	24	15	38
27DT, F27, 27BT (1938-44)	10	24	16	38

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
CORBITT—Cont.				
F12 (1938-42)	5	8	12	27
F14 (1938-42)	7	8	8	22
F18 (1938-44)	8	8	9	30
F19 (1938-42)	7	12	9	28
F23 (1938-42)	10	16	11	33
F35 (1938-44)	10	24	17	38
DIAMOND T				
412DR (1935-37)	8	10	12	24½
512B (1935-37)	8	10	8	24½
512DR (1935-37)	8	10	15	24½
212A, 212B (1936-37)	6	4½	6	23½
221 (1936-37)	6	4½	6	24
226 (1936-37)	6	4½	8	23½
244, 313 (1936-37)	6	4½	8	24
320 (1936-37)	6	6	8	28½
353, 360 (1936-37)	6	10	8	28½
80 (1936-37)	6	2	5	18
80, 301, 304 (1938)	6	4	4	21
401COE (1938)	6	4	6	23½
402COE (1938)	6	4	8	23½
404, 405 (1938)	6	4	8	22½
406 (1938)	6	4	6	23
507 (1939)	8	8	8	23½
509 (1939)	8	8	8	23
807COE (1939)	6	6	8	28
809COE (1939)	6	10	8	28
611 (1939)	6	7	8	25
612 (1939)	6	10	8	25
613, 614 (1939)	6	10	8	24
412DR, 512DR (1939)	8	18	12	28
512B (1939)	8	18	10	28
201, 305, 306 (1939)	6	4	4	18
201C, 305C (1939)	6	4	5	18
306C (1939)	6	4	6	18
404, 406 (1939)	6	4½	6	23
404C, 509 (1939)	6	4½	6	23
509C, 612C (1939)	6	4½	8	23
612 (1939)	6	4½	8	22
614 (1939)	6	12	8	22
614C (1939)	6	12	8	24
803C (1939)	8	20	10	28
804C (1939)	8	20	12	28
201 (1940)	6	3½	6	16
201C (1940)	6	4½	8	18
306, 306C (1940)	6	4½	8	16½
306SC (1940)	6	4½	8	19
404 (1940)	6	4½	8	18
404C (1940)	6	4½	8	23½
404SC (1940)	6	4½	8	26
406, 509 (1940)	6	4½	9	23½
509C, 612C (1940)	6	4½	9	24
612 (1940)	6	4½	9	23
614, 614C (1940)	6	12	9	3½
803C (1940)	8	20	12	28
804C (1940)	8	20	16	28
805H, 805W (1940)	8	20	20	28
805B, 805BW (1940)	8	20	12	28
805DR, 805DRW (1940)	8	20	12	28
900W (1940)	13	24	14	43½
201 (1941-42)	6	3½	6	16
201C, 306C (1941-42)	6	4½	8	18
306 (1941-42)	6	4½	8	17
306SC (1941-42)	6	4½	8	19
404, 404C (1941-42)	6	5	8	23
404SC (1941-42)	6	5	8	26

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LUBRICANT & COOLING SYSTEM CAPACITIES

CONTINUED FROM PAGE 98

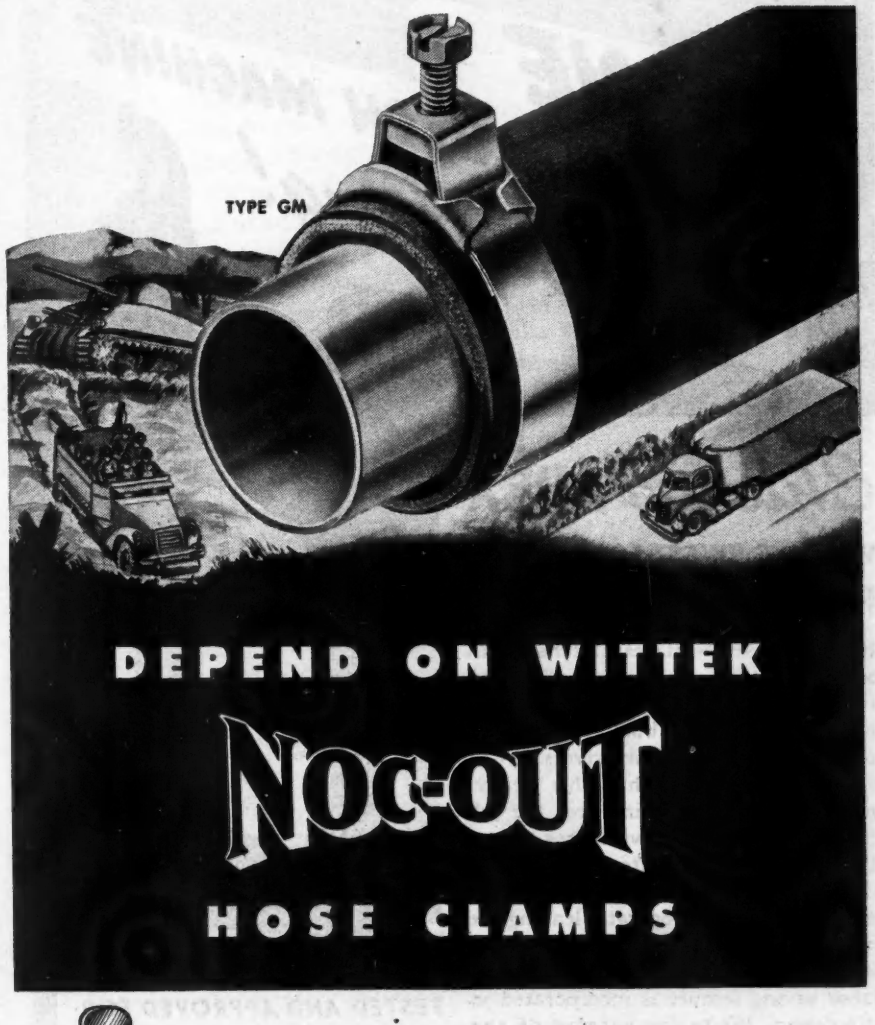
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TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
DIAMOND T—Cont.				
406, 509, 612SC (1941-42)	6	5	9	23
408SC, 509SC (1941-42)	6	5	9	26
509C, 612C (1941-42)	6	5	9	24
612 (1941-42)	6	5	9	22
614 (1941-42)	6	12	9	22
614C (1941-42)	6	12	9	23
612SC (1941-42)	6	5	9	25
614SC (1941-42)	6	12	9	25
905C (1941-42)	8	20	12	28
908, 908C (1941-42)	8	20	16	28
905 (1941-42)	8	20	20	28
702 (1941-42)	8	20	12	44
900 (1941-42)	14	24	14	44
DODGE				
KC, KCL, KH Series, LC	5	2½	3½	15
K32, K33, K34	5	6	5	12
K35, K36, K37, K38, K45, K46, K47, K48	6	5	8	14
K50, K51, K52, K70, K71, K72	8	10	8	23½
LE Series	5	6	4½	16½
LF Series	5	6	8	16
LG, LH Series	6	11	14	18
K50V, K51V, K52V, K60V, K61V, K62V	8	11	14	20¾
MC, RC Series (1937-38)	5	3½	3½	18
MD, RD Series (1937-38)	5	3½	4	18
ME, RE Series (1937-38)	5	6	6½	18
MF, RF Series (1937-38)	5	6	8	18
MG, MH, RG, RH Series (1937-38)	5	11	8	19
ML, MK, RL, RK, RU Series (1937-38)	8	11	14	....
TC (3-Speed Trans.)	5	3½	3½	18½
TC (4-Speed Trans.)	5	6	3½	18½
TD-15 (3-Speed Trans.)	5	3½	3½	17
TD-15 (4-Speed Trans.)	5	6	3½	17
TD-20, TD-21 (3-Speed Trans.)	5	3½	4	17
TD-20, TD-21 (4-Speed Trans.)	5	6	4	17
TE (4-Speed Trans.)	5	6	6½	19½
TF (4-Speed Trans.)	5	6	11 a	19½
TF (5-Speed Trans.)	5	11	11 a	19½
TG, TH	5	11	10ab	20½
TL, TK, RO, RP	6	11	7ac	28
TLD, TKD	14	11	7ac	....
VC, WC	5	3½	3¼	18½
VD-15, WD15	5	3½	3¼	17
VD-20, VD-21, WD20, WD21	5	3½	4½	20½
VF, VM, WF, WFM	5	6	11	19½
VG, VH, WG, WH, WGM, WHM	5	11	10ab	20½
VL, VK	8	11	14ac	28
VLD, VKD, WLD, WKD	14	11	14ac	35
FEDERAL				
9 (1937-38)	5	4	4	18
10 (1937-38)	4	4	4	18
11, 11K, M11, 12K, M12, 14K	4½	4	4	18
11H, 14, M14	4½	4	4	18
15, 15H, 15K, 16K, 17K, 18, 18H, 18K, 20, 20H, 20K	4	4	8	25
75, 75H, 75K, 76K, 77K, 80, 80H, 80K	4	4	8	25
29, 29K, 89, 89K	4	13	12	25
29H, 89H	4	13	15	25
25, 25H, 25K, 85, 85H, 85K	4	8	12	25
C7, C8	10	24	22	29
40, 50, 40F	8	9	15	30
62	12½	22	32	34
63	10	22	32	32
7M7	5	5	3	12
8M8	4½	5	3	14
35, 90	7	12	12	28
48, 55, 92, 94	7	10	15	28
18M (1944)	4	4	8	25
29M (1944)	4	13	12	25
45M, 55M (1944)	8	10	15	31
60M (1944)	12½	22	32	30
FORD				
AA, BB, 4Cyl. (1929-34)	5	2½	9	13½
BBV8 (1932-34)	5	2½	9	22
51V8 (1935-36)	5	2½	9	25
75V8 (1937)	4	5	9	16
79V8 (1937)	5	5	9	25
81T, 817T (1938)	5	5	9	24
81Y (1938)	5	2½	5	22
82Y (1938)	4	2½	5	16
81C (1938)	5	2½	2½	22
82C (1938)	4	2½	2½	16
91T, 917T, 911W, 91W, 917W, 99T, 997T, 991W, 99W, 997W (1939)	5	5	7	24
91Y, 91C (1939)	5	3	3	22
92Y, 922C (1939)	4	3	3	16
01BT, 01T, 01W, 011W, 098T, 09T, 09W, 091W, 118T, 11T, 11W, 111W, 119T, 19T, 19W, 191W	5	5	7	24
01D, 01Y, 01C (1940)	5	2½	3	22
02D, 02Y, 022C (1940)	4	2½	3	16
11D, 11Y, 11C (1941-42)	5	2½	3	24

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
FORD—Cont.				
1ND, 1NY, 1NC (1941-42)	4	2½	3	14
49BT, 494T (1944)	5	5	7	24
FWD				
HS, HA	8	12	6d	26
HG, HR	10	16	8d	26
HM	10	16	8d	30
CUA	10	24	8d	30
CU	10	16	8d	30

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
FWD—Cont.				
SU, SUA, YU	12	24	8d	38½
M6	12	24	12d	....
MJ6	12	22	12d	42
MJ6X6	12	22	16d	42
M6X6	20	22	16d	52
M7	20	22	16d	68
M10	20	22	16d	64
T29	10	12	12d	24
T30	8	12	6d	29

CONTINUED ON PAGE 102



DEPEND ON WITTEK

NOC-OUT

HOSE CLAMPS



Type A—Adjustable For Replacement.

The standard of the industry. Quick-tightening, perfect leak-proof hose connections, for original equipment and replacement. For Radiator, Heater, Booster Brakes and High Pressure hose connections. Wittek Manufacturing Co., 4305-15 W. 24th Place, Chicago, Ill.



Type HP—For High Pressure Requirements.

WITTEK WMCO NOC-OUT HOSE CLAMPS

LUBRICANT & COOLING SYSTEM CAPACITIES

CONTINUED FROM PAGE 101

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
FWD—Cont.				
T32	12	16	12d	28
T40	12	24	8d	38
T60	20	26	8d	38
T65	20	26	16d	40
T72	20	22	16d	52
GENERAL MOTORS				
T14 (1937)	6	1½	5	15½
T16 (1937)	6	7	7½	16½
GENERAL MOTORS—Cont.				
F16 (1937)	6	7	6½	15½
T16H, F16H (1937)	6	7	6½	15½
T18, T18H (1937)	7	4	6½	16
F18, F18H (1937)	6	4	6½	16
T23, F23 (1937)	8	7	10	20
T23H, F23H (1937)	8	7	13	20
T33 (1937)	7	7	13	20
F33 (1937)	6	7	13	20
T33H (1937)	7	7	9	20



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Relines brakes—refaces clutches with original factory accuracy. Handles any size job from the smallest to the largest—passenger car, truck, bus, army and airplane brakes using tubular rivets. Truck fleet operators find that this heavy, powerful relining machine does the job better, quicker and with less effort. Delining, drilling, countersinking, riveting, straightening and grinding is accomplished without the operator leaving the machine. Actually, it's a complete relining-refacing department. Every known labor saving feature is incorporated in it's design. *Write for catalog of the complete "Chicago" line.*

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★ **GRINDING UNIT** . . . Fully machined, large table, 6¼" cushioned abrasive drum.

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★ **QUIET** . . . No noisy clatter.

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(Chicago Suburb)

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
GENERAL MOTORS—Cont.				
F33H (1937)	6	7	9	20
T46 (1937)	12			28
F46 (1937)	10			28
T45, 400 (1937)	12			34
F46, 400 (1937)	10			34
T61 (1937)	12			34
F61 (1937)	10			34
T61H (1937)	12			34
F61H (1937)	10			34
T14, T145, T15 (1938)	6	1¾	5	15½
T155 (1938)	6	1½	7½	16
T16, F16 (1938)	6	6½	7½	17
T16H, F16H (1938)	6	6½	10	17
T18, T18H (1938)	7	4	10	16
F18, F18H (1938)	6	4	10	16
T23 (1938)	7	7	10	17
T23H (1938)	7	7	13	17
F23 (1938)	6	7	10	17
F23H (1938)	6	7	13	17
T33 (1938)	7	13	13	17
T33H (1938)	7	13	9	17
F33 (1938)	6	13	13	17
F33H (1938)	6	13	9	17
T46 (1938)	12	13	9	28
F46 (1938)	10	13	9	28
T61, T61H, F61, F61H (1938)	10	(e)	16	34
AC100, AC150, CC100, CC150	8	1¾	4½	19
AC-250, AF-240, AF-241, CC300	8	1¾	8½	18
CC250	8	1¾	3	18
CC260	8	1¾	3	18
AC-300, AF-300, AF-310, CC-300	8	6½	8f	17
AC-350, AF-350, CC-350, CF-350	8	6½	7f	17
AC-400	9	4	7f	18
AF-400, CC-400, CF-400	9	7	7f	18
AC-450, AF-450, CC-450, CF-450	9	7	8½g	18
AC-500, AF-500	9	13	12g	18
AC-550, AC-600, AF-550, AF-600	9	13	13g	18
AC-650, AF-650	9	13	15g	18
AC-700, AF-700	10½	11½	15g	22
AC-800, AF-800, AC-850, AF-850	10½	9	16	22
GRAMM				
11 (1940-41)	6	6	4	18
15 (1937-39)	6	6	6	18
21 (1940-41)	6	6	6	18
25, 30, 31 (1937-40-41)	6	6	6	19
40, 41, 48 (1937-40-41)	6	6	9	19
45, 50 (1937-39)	6	6	8	19
55 (1937-39)	8	8	8	20
56 (1940-41)	8	8	10	20
70 (1937-39)	8	8	14	20
71 (1940-41)	6	12	10	20
75 (1937-39)	6	6	14	22
76, 86 (1940-41)	6	12	13	22
85 (1937-39)	6	6	16	22
86 (1940-41)	7	20	16	24
DJX40 (1937-39)	6	8	9	22
DJX70 (1937-39)	6	8	14	22
DJX75 (1937-39)	6	8	14	22
DJX85 (1937-39)	6	8	16	22
DJX55 (1937-39)	6	8	8	22
D46 (1940-41)	6	6	9	22
D56 (1940-41)	6	8	10	22
D71 (1940-41)	6	12	10	22
D76 (1940-41)	10	12	13	22
D86 (1940-41)	10	20	13	22
D96 (1940-41)	10	20	16	22
HUG				
42 (1936-39)	10	16	9	28
43 (1936-39)	10	24	11	28
D42 (1936-39)	10	24	9	31
D43 (1936-39)	10	15	11	31
D43L (1936-39)	14	15	12	38
70K (1936-39)	10	16	12	28
87Q, D87Q (1936-39)	10	24	16	28
99, 99S, D99, D99S (1936-39)	14	24	52	38½
15W (1940-42)	8	8	8	23
19W, 83W, C86P (1940-42)	8	12	8	23
23W, C87P (1940-42)	8	12	8	24
42W, 85W, C88P (1940-42)	8	16	8	28
43W (1940-42)	18	15	12	38
87W (1940-42)	8	16	11	28
92U (1940-42)	10	24	16	29
98 (1940-42)	18	36	16½	38
D98 (1940-42)	14	36	16½	38
99 (1940-41)	18	36	33	38
D99 (1940-41)	14	36	33	38
99S (1940-41)	18	36	52	38
D99S (1940-41)	14	36	52	38
51-8 (1942)	20	16	24	60

CONTINUED ON PAGE 104



26 BASIC DESIGNS OF PISTON RINGS

—not 2—not 6—but 26

NOT 2, not 6, but 26 basic designs of rings have been developed by Sealed Power engineers for use in Individually Engineered Ring Sets. The set for each particular type and make of engine contains rings that have been specifically engineered to do the best possible job in that engine. Sealed Power has been refining these sets for more than five years and has been producing rings for bus, truck, and engine manufacturers for more than thirty years. Sealed Power laboratories, production facilities, engineering and craftsmanship are unequaled. For best results re-power with Sealed Power motor parts. Sealed Power Corporation, Muskegon, Michigan and Windsor, Ontario.

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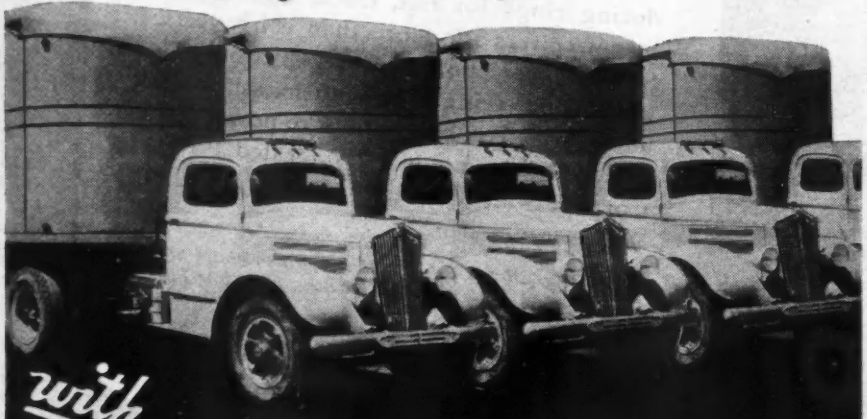
BEST IN NEW TRUCKS! BEST IN OLD TRUCKS!

LUBRICANT & COOLING SYSTEM CAPACITIES

CONTINUED FROM PAGE 102

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
INTERNATIONAL				
C1, C15, C30, CS30, C30S	6½	5½	9½	15
A1, A2, B2, M2, M3, C10, C20, CS20	4	5½	9½	17
B3	7	5½	9½	20
C6	4	3	4	14
C35, C35B, CS35, CS35B, C35T, CS35T, B4, C40, CS40, C40T, C40F	7	9	15	20
A4, A5, A6, C50, C50T	10	11½	12	28½
INTERNATIONAL—Cont.				
C55, C55F, C55T, C60, C60T	9	11¼	12	29½
A7, A7F	20	48	24	42
A8	20	48	24	42
D2, D15	6½	3	4	15½
D5	4	3	4	14½
D30, D30B, D303, D186T	6½	5½	7	18
DS30, DS30B, DS186T	6½	5½	17	18
D35, D216T	7¼	5½	10	18¾
D35B	7¼	14	10	18¾
D35S	7¼	5½	17	18¾
DS216T	7¼	5½	16	18¾
D40	7¼	14	10	21¾
DS40	7¼	14	16	21¾
D50, DR50, D246, DTR246T	10	14	18	24½
DS50, DS246T	10	19	17	24½
D60, DR60	10	19	16	29
DR70, DR346T	10	19	16	31
D300	6½	5½	7	18¼
DS300	6½	5½	17	18¼
D500, DR500	10	14	16	25½
DS500	10	19	17	25½
DR700	10	19	16	32
D246F	10	14 h	16 l	24¾
D346F	10	19 h	16 l	31
DR426F	10	48 h	16 l	31
AR826F	22	48 h	12 l	60
M3	4	5½ h	9½	17
K1, K2	5½	3	4	18
K3	5½	3	5	18
K4	5½	5½	7	18¼
KS4	5½	5½	8	18¼
K5	5½	5½	7	18½
KS5	5½	5½	13	18½
K6	7¼	5½	10	20½
KS6	7¼	5½	13	20½
K7	7¼	11	10	20½
KS7	7¼	11	16	20½
K8, KS8	10	11 r	16	25½
K10	10	18	12	25½
KR10	10	18	17	25½
KR11	10	18	18	25½
K5COE	5½	5½	7	22½
KS5COE	5½	5½	13	22½
K6T	7¼	5½	10	20½
KS6T	7¼	5½	16	20½
K6F	7¼	5½	7 l	20½
K7COE	7¼	11	10	22½
KS7COE	7¼	11	16	22½
K8T, KS8T	10	11	18	25½
KR8T	10	11	20	25½
K8F	10	11	10 l	25½
K8COE, KS8COE	10	11	18	25½
KR8COE	10	11	17	25½
KS10	10	18	22	25½
KS11, KS11T	10	18	22	25½
KR11T	10	18	17	25½
K11F	10	18	11 l	25½
KR11COE	10	18	18	30½
KS11COE	10	18	22	30½
KR12F	10	26	18 l	27
KR8	10	11	17	25½
KR-11 (1944)	10	24	18	26¼
KS-11 (1944)	10	24	22	26¼
KENWORTH				
528	9	24	11	38
523	20	18	11	54
524, 548, 552	20	18	20	54
LA FRANCE REPUBLIC				
C3	8	6	8	22
D4	8	7	8	22
E4	8	6	9	22
F4, H6	8	16	12	32
K1	10	12	16	38
M4	10	12	26	38
EH5B, EH5D	8	12	9	40
EH6B, EH6D	8	12	12	40
FH5B, FH5D	8	16	12	....
HH7	8	16	12	....
KH2	10	24	12	....
MH6	10	24	16	....
MARMON-HERRINGTON				
A10-4, A20-4	6	6	16	22
A30-4, A40-4, A50-4	7	24	16	28
TH300-4, TH310-4	10	26	32	36
TH310A-4, TH310A-6	10	26	36	40
TH315-4, TH315-6	20	32	36	60
TH320-4, TH320-6	20	16	48	60
B10-4, C10-4, B20-4, C20-4, C20-6, B30-4, C30-4, C30-6	7	12	10	24
B40-4, B40-6, C40-4, C40-6, B60-4	10	16	10	30
B60-4, C55-4, C55, DR4, C60-4, C60-6	12	24	12	36
B70-4, B70-6, C70-4	12	24	19	40
B80-4, B80-6, C80-4, C80-6	12	24	20	40
TH415-4, TH415-6, TH515-4, TH515-6, TH420-4, TH420-6, TH520-4, TH520-6	24	32	36	60
B5-4x4, B6-4x4, B5-6x4	5	5	14	25
B5-6x6, B6-6x6	5	5	5½	25
B6-6x4	6	5	5½	25
LD1, LD14	5	5	2½	25
C5A4, C5B4, CSA-4, CSB-4, C5-4, C6-4	5	5	5½	25
C5-6, C6-6 (1937)	5	5	5½	25

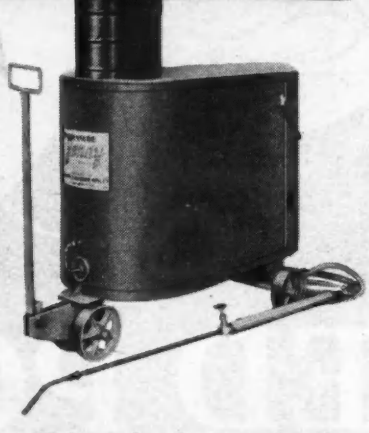
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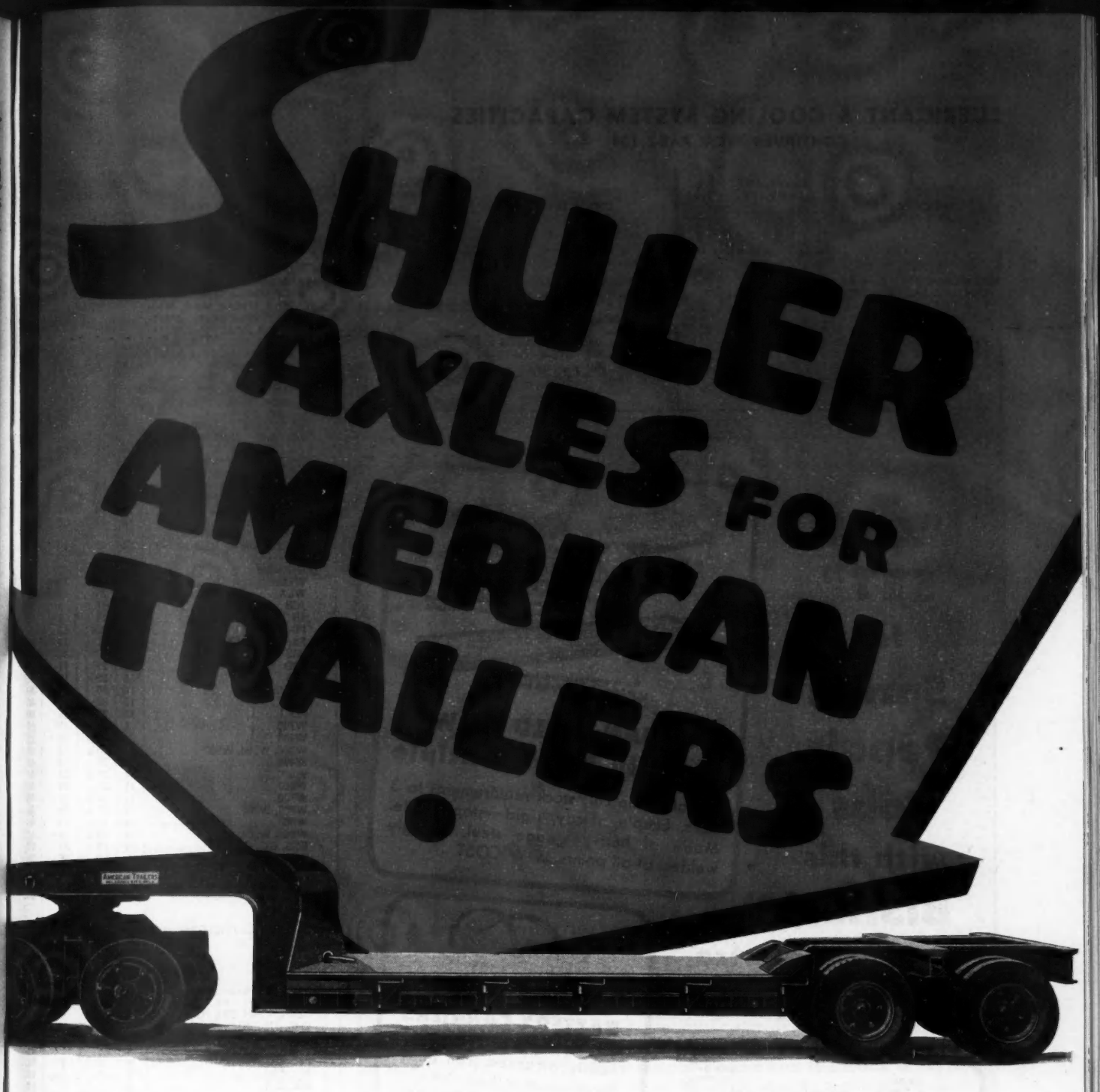
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CONTINUED ON PAGE 106



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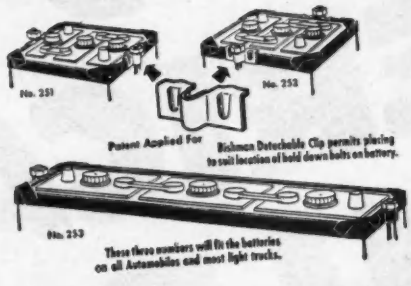
West Coast Warehouse: Ford & Derby Streets, Oakland, Calif.

LUBRICANT & COOLING SYSTEM CAPACITIES

CONTINUED FROM PAGE 104

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
MARMON-HERR.—Cont.				
E5-4, E6-4, E5-COE-4 (1938)	5	5	5½	25
E5-6, E6-6 (1938)	5	5	5½	25
LD3-4, OOT2-4, OT2-4, LD4-4, LLD4-4, OT3-4, OOT3-4	5	5	2½	22
F5-4, FF5-4, F5-COE, FF5-COE-4, F6-4, FF6-4, H5-4, HH5-4, H6-4, HH6-4	5	5	5½	24
F5-6, FF5-6, F6-6, FF6-6, H5-6, HH5-6, H6-6, HH6-6	5	5	5½	24
J5-4, J6-4, JJ5-4, JJ6-4, JJ5-6, JJ6-6	5	5	5½	24
LD5-4, LLD5-4, OT4-4, OOT4-4	5	5	2½	24
LD6-4, LD6P-4, LLD6-4, LLD6P-4, OT5-4, OOT5-4 (1942-43)	5	5	2½	22
6LD6-4, 6LD6P-4, 6OT5-4 (1942-43)	5	5	2½	17
M5-4, MM5-4, M6-4, MM6-4, M5-6, MM5-6, M6-6, MM6-6, M5-COE-4, MM5-COE-4, M6-COE-4, MM6-COE-4, M5-COE-6, MM5-COE-6, M6-COE-6, MM6-COE-6 (1942-43)	5	5	5½	23
6M5-4, 6M6-4, 6M5-6, 6M6-6, 6M5-COE-4, 6M6-COE-4, 6M5-COE-6, 6M6-COE-6 (1942-43)	5	5	5½	17
DSD-100-4, DSD-200-4	6	10	10	34
DSD-200-6, DSD-300-4, DSD-300-6	6	12	10	34
DSD-400-4, DSD-400-6	7	16	15	36
DSD-500-4, DSD-500-6	7	17	10	32
DSD-550-4, DSD-550-DR4	10	24	10	30
DSD-600-4, DSD-600-6, DSD-700-4, DSD-700-6	10	24	19	38
DSD-800-4, DSD-800-6	10	24	20	38
DSD-900-4, DSD-900-6, DSD-1000-4, DSD-1000-6	14	22	24	60
OSHKOSH				
WLD	7	23½	10½	28
WLX	7	23½	10½	28
JCB	8	11	8½	22
JD	6	11	8½	22
FC-35	10	30½	12	40
FS, FB, FC, FB-35	10	30½	12	40
B3S	7	23½	10	28
B3D	7	23½	11	28
C3S	10	30½	10	40
C3D	10	30½	12	40
R3S	10	30½	19	40
FD	10	30½	25	40
W100	8	10 p	12	25
W200	8	10 p	15	25
W300, W304, W307	8	18 p	12	38
W400	11	21 p	14	44
W500	11	21 p	15	44
W600	11	21 p	15	46
W700	11	21 p	15	46
W703, W705	14	21 p	15	46
W800	14	21 p	18	46
W900, W906	16	19 q	18	40
BG3, GD, GDC	16	19 n	21	62
W2300	8	18	15	36
PETERBILT				
344DT, 354DT (1944)	20	18	10 ea	60
REO				
4H5, 4J5, 4K5 (1936-37)	9	12	15	31
450 (1937)	4	2¼	2	12
475 (1937)	4	2¼	3½	12
550 (1937)	5	2½	2	14
675 (1937)	5	2½	3½	14
1A4, 1C4 (1937)	5	6	9	15½
1A4H, 1C4H, 1B4, 1D4 (1937)	6	6	9	19
1B4H, 1D4H, 2B4, 2D4 (1937)	6	6	9	19½
2H5, 2J5 (1937)	6	12	9	19½
3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5 (1937)	6	12	15	25
450, 450L	4	2¼	2	12
475, 475L	4	2¼	3½	12
650, 650L	5	2¼	2	14
675, 675L	5	2¼	3½	14
1A4, 1C4	6	6	9	15½
1A4C, 1C4H, 1B4, 1D4	6	6	9	19
1B4H, 1D4H, 1BM7, 2BM7, 2B4, 2D4, 2L7M	6	6	9	19½
2J5, 2H5, 2L4H, 2L7MH	6	12	9	19½
1L5	6	6	9	15
3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5	6	12	15	25
4H5, 4J5, 4K5	9	(j)	15	...
3L6H	8	12	15	31
19, 20 (1941)	8	6	8	17
21 (1941)	8	8	12	17
22 (1941)	8	11	12	18
23 (1941)	8	12	15	19
4D19	5	8	8	17
6D19	6	8	8	17
D20	6	8	12	17
23-H (1942)	8	12	12	19
25 (1942)	8	20	16	18
27 (1942)	8	24	14	27
22 (1942)	8	11	12	19
21 (1942)	8	11	12	18
STERLING				
FB50 Del. (1937-38)	8	6	8	22
FB60 Del. (1937-38)	8	7	8	22
FB70 Del. (1937)	8	8	14	22
FC90 (1937-38)	8	9	18	22
FBT130	8	11	14	23
FB-80 (1937)	8	24	15	32
FD90 (1937)	8	24	11	32
FD97 (1937)	10	12	15	38
FC135 (1937)	10	12	18	36

"GET SET" for Spring Repair Jobs with this BISHMAN Battery Service EQUIPMENT



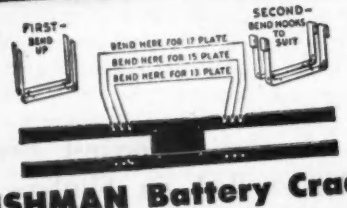
BISHMAN HOLD DOWNS
Entirely New Principle

Movable clip cuts stock requirements to 3 sizes. Simple, sturdy, rigid—stops rattle. Made of heavy gauge steel, strongly welded at all points. LOW COST.



BISHMAN Strap Type BATTERY CARRIERS

Strong strap with permanently attached iron ends firmly press-locked. Manf'd under pat. license. No. 182, short type, No. 181, long type.



BISHMAN Battery Cradle or Replacement Box

One size fits most cars. No tools needed—simply bend. Holes make easy bending and mark place for bending. Made of 16-gauge STEEL—strong, rigid. No. 230, weight each 1½ lbs.—25 to bundle.

ASK YOUR JOBBER
or write us for full information

The BISHMAN MANUFACTURING CO.
1101 South 2nd St.
Minneapolis 15, Minn.

BISHMAN
Established 1926



CONTINUED ON PAGE 108



--and in post-war competition

we will count on LS Trailer Bodies

--for less time out for repairs

--more "pay service" hours

COMBAT BODIES



Body builders now providing mobile workshops, command posts, and many other types of combat bodies for the armed forces . . .

TRUCK BODIES



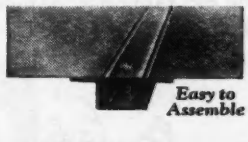
. . . can quickly change over to the manufacture of delivery trucks and trailers of all types. No new tools required—no tooling up—no special experience.

A freight trailer makes money when it keeps going—there is no profit in days or weeks lost for repairs.

In Mattoon, Illinois, Hayes Freight Lines have found a way to cut down the doubly costly hours spent for trailer body repairs. H. G. Bowen, vice-president of Hayes, reports that "Lindsay Structure saves as much as a week in repairing front end or side panel cave-ins. Due to the simple assembly of the structure, new panel sections are quickly put into place and the truck or trailer body, with a new paint job, is back on the road in a couple of days."

And so another leading motor freight company will have another distinct advantage in meeting post-war competition: LS Trucks and Trailers for more "pay service" hours.

Lindsay Structure offers new efficiency in a wide variety of light sheet metal applications. It will pay you to have complete information in your "Post-War Plans" file. Lindsay and Lindsay, Adams-Franklin Bldg., Chicago 6, Ill.; or 60 E. 42nd Street, New York 17, N. Y.



Easy to Assemble

LINDSAY LS STRUCTURE

REG. U. S. PAT. OFF.

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending
For details, see Sweet's Catalog File

LINDSAY STRUCTURE CAN SAVE THOUSANDS OF TONS OF STEEL PER MONTH

LUBRICANT & COOLING SYSTEM CAPACITIES

CONTINUED FROM PAGE 106

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
STERLING—Cont.				
HC140 (1937)	10	12	18	44
FD115 (1937)	10	12	18	36
FC100 (1937)	8	12	18	34
HC170	14	14	20	48
HCS210 (1937-38)	14	14	12	48
FB70 (1938)	6	8	11	22
FB80 (1938)	8	10	12	32
FD90 (1938)	8	16	11	32
FD97 (1938)	8	12	16	36
FC135 (1938)	8	12	18	36
HC140 (1938)	8	12	18	44
FD115 (1938)	8	12	26	36
FC100 (1938)	8	12	18	36
HC200, HC185 (1938)	14	14	20	48
HC250 (1938)	14	(k)	20	48
FBT152 (1938)	8	16	12	32
FWS152 (1938)	8	16	20	32
FDS180 (1938)	8	12	24	36
STERLING—Cont.				
MB75, MD75 (1939-42)	8	12	11	34
MS75 (1939-41)	8	12	20	34
MB85, MD85 (1939-42)	8	12	12	34
JB90, JD90	8	16	12	27
MB90, MD90, HBT128 (1939-41)	8	16	12	34
HD105 (1939-42)	8	16	16	34
HD110 (1939-42)	10	m	16	38
HD115 (1939-42)	10	m	26	38
JD135 (1939-42)	10	24	26	32
JD137 (1939-42)	10	24	16	32
HD145	10	24	16	38
HD165 (1939-42)	10	24	20	38
HD175R (1939-42)	14	22	20	40
HC105 (1939-42)	8	16	14 n	34
HC115 (1939-42)	10	m	14 n	38
JC137	10	24	14 n	32
HC147, HC165 (1939-42)	10	24	14 n	38
JC145	10	24	16 n	32
HC145, HC156 (1939-42)	10	24	16 n	38
HC175 (1939-42)	10	24	20 n	38
HC185 (1939-42)	14	22	20 n	40
HC200 (1939-42)	14	22	22 n	40
HC250	14	22	22 n	42
HWS126, HDS128 (1939-42)	8	16	10	34
JWS160, JDS160 (1939-42)	10	24	12 l	32
HWS235S, HDS235S (1939-42)	10	24	20 l	38
HCS225	10	24	10 n	....
HCS255, HCS285, HCS300, (1939-42)	14	22	10 n	....
STEWART				
40A, 60A (1938)	4	6	3	18
45A, 45AL, 45AS (1938)	6	8	2	18
47A, 50A (1938)	8	6	5	24
50AS (1938)	8	6	10	24
49A (1938)	9	8	8	28
51A (1938)	9	8	8	24½
61A (1938)	4	6	6	18
58A (1938)	8	20	6	28
59A (1938)	8	20	10	28
38-6 (1938)	8	20	10	28
31X (1938)	8	26	18	31
49A (1940-42)	9	12	20	28
58A (1940-42)	8	16	22	28
59A (1940-42)	8	16	24	28
38A (1940-42)	8	18	16	28
STUDEBAKER				
J5 (1937)	6	2½	3	13
J15, J15M, J15B (1937)	6	6	8	18
J20, J20M, J20B (1937)	6	6	10	21
J25, J25M, J25B (1937)	6	12	14	21
J30, J30M (1937)	7	18	12	23
K5 (1938-40), L5 (1939)	5½	2½	3	14
K10 (1938-40)	5½	3	4	16
K15, K15B, K15M (1938-40)	5½	6	8	16
K20, K20M, K20MB (1938-40)	6	6	10	21
K25, K25M, K25MB (1938-40)	6	12	14	21
K30, K30M (1938-40)	7	18	12	23
Coupe-express (1942)	5	2½	3	10¼
Standard (1942)	5	6	6	10¼
Heavy-duty (1942)	6	6	6	13
WALTER				
FN	8	18	10	34
FM, FKM (1940-42)	10	18	10	34
FCK, FC (1940-42)	10	25	14	34
FB, FBR (1940-42)	14	25	14	32
WHITE				
60, 60K, 601, 602	13	8	10	25
61, 611, 612	13	8	16	25
500	6	7	8	22
510, 512	6	7	8	18
616	14	22	8	29
620	22	8	8	32
620K	22	8	8	30
621	22	8	10	32
621K, 51AS, 63, 630, 630K, 631, 631K	22	8	10	30
640, 641 (1AB Engine)	28	12	10	30
640, 640K, 641 (5A Engine)	22	40	10	30
641K, 642, 643 (5A Engine)	22	40	12	30
642, 643 (1AB Engine)	28	12	12	30
642SW310	28	12	17	30
642SW320	22	40	17	30
643SW410	28	12	22	30
643SW420	22	40	22	30
65K	22	8	10	34
661	22	40	12	31
700, 700H	12	7	8	23
700K	12	7	16	23
701, 702	6	4	12	17
703, 704	12	8½	11	23
704K	12	12	11	23
705	12	8½	10	23
707	8	4	14	17
708	12½	12	11	23
709 (11A Engine)	12	8½	11	23
709 (13A Engine)	12	12	11	23



No wonder she needed a TRUNK!

DEAR old Aunt Minnie, whenever she went to the seashore she took along a trunk, a nice large one—for her bathing suit.

How much more sensible are these sleek, new, stream-lined swim suits of today. For they do everything the old fashioned bathing suit did—they cover!

So it is with Grafild Group Blocks for trucks. They tie up one-tenth the money, take up one-sixth the room, yet service ninety-five per cent of all trucks! That's coverage!



Reline With GRAFILD BRAKE LININGS

"The STOP that Keeps Things GOING!"

WORLD BESTOS CORP., PATERSON, N. J., U.S.A.

CONTINUED ON PAGE 110



☆ A clean motor runs better and lasts longer. ☆ Nowhere is this fact more important than in fleet operation.

☆ That's one reason why, year after year, Casite has gained in popularity with fleet maintenance men.



☆

IT'S A PRIVILEGE TO BUY WAR BONDS

THE CASITE CORPORATION

HASTINGS, MICHIGAN

AA-1 Parts Priority Time Limitation Removed

The time limitation of April 1, 1944, on the use of AA-1 ratings to cover the production of replacement parts for medium and heavy motor trucks, truck trailers, passenger carriers, off-the-highway motor vehicles and motorized fire equipment, has now been removed, according to the WPB.

Removal of the expiration date will thus enable manufacturers of replacement parts for these vehicles to schedule production for the second and subsequent quarters on an AA-1 priority basis.

Passenger automobiles and light truck replacement parts take an automatic AA-2X rating. There was no time limitation on the use of this rating for such replacement parts production.

Globe-Union Awarded "E"

Globe-Union Inc., Milwaukee, Wis., received the Army-Navy "E" award on Jan. 9. Presentation of the award was made by Brig. Gen. Edgar Clewell, Commander of Western Signal Depots.

Tire of Future May Be Natural Plus Synthetic

The "super" auto tire of the future is likely to be the result of a combination of synthetic and natural rubber, with the former in the sidewalls and tread and the latter in the casing, according to William S. Richardson, general manager of the chemical division of the B. F. Goodrich Co.

The relatively high abrasion resistance of synthetic, Mr. Richardson told the joint annual meeting of the Harvard, Yale and Princeton engineering associations, indicates that it might play this role in tires even after natural rubber again becomes available. He emphasized, however, that some technical difficulties in satisfactorily "marrying" the two types in this way have yet to be completely solved.



"THIS IS THE THING THAT SAVED MY TRUCK"

● Truck drivers and fleet operators alike agree that you can't beat DUGAS W.E.S. Extinguishers with PLUS-FIFTY DUGAS Dry Chemical for quick, positive results whenever Fire breaks out.

Unaffected by weather conditions, DUGAS W.E.S. Extinguishers are always ready for instant action against flammable liquid, gas or electrical equipment fires.

Harmless to everything except fire, PLUS-FIFTY DUGAS Dry Chemical is non-toxic, non-corrosive and non-abrasive. Get this vital fire protection now! Write today for name of your nearest distributor.

PLUS-FIFTY duGas REG. U. S. PAT. OFF. DRY CHEMICAL U.S. PATENT 1726666

SPECIAL WARTIME EMERGENCY UNIT FOR TRUCKS...

This unit complies with the recently amended Rule No. 3,3491 (A) Motor Carrier Safety Regulations, Revised, of the I.C.C., and meets the requirements of the Underwriters' Laboratories, Inc., war emergency specification No. 299, dated Dec., 1942.



CCJH-1-44

DUGAS ENGINEERING CORPORATION, MARINETTE, WISCONSIN
OWNED AND OPERATED BY ANSUL CHEMICAL COMPANY

LUBRICANT & COOLING CAPACITIES

CONTINUED FROM PAGE 108

TRUCK MAKE AND MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
WHITE—Cont.				
710 (30A Engine)	12½	12	11	23
710 (13A & 16A Engine)	12	12	11	25
712 (9A Engine)	9½	22	14	25
712 (16A Engine)	12	12	11	25
718 (16A Engine)	12	12	12	25
718 (30A Engine)	12½	12	20	23
720, 720T (14A Engine)	18	26	16	32
720, 720T (15A or 18A Engine)	18	26	22	32
722 (15A Engine)	18	26	16	32
722 (25A Engine)	18	26	22	32
750	12½	20	22	24
750T	12½	20	10	24
800, 802	6	8	8	18
804	6	8	8	22
805	12	6	10	23
809, 810, 812	12	12	11	25
818 (16A Engine)	12	12	12	25
818 (30A Engine)	12½	12	20	25
820, 822	18	24	22	32
850	12½	20	22	25
904	12	5½	8 I	23
918	12	12	10 I	25
920	18	26	12 I	32
922	18	26	20 I	32
942	22	40	20 I	32
950	12½	20	10 I	23
991	22	40	20 I	31
White Horse (32A Engine)	3½	3	6	....
White Horse (35A Engine)	5	3	6	....
WA14, WA114	12	8½	18	27
WA18, WA118	12	5½	18	27
WA20, WA120, WA18	12	13	22	31
WA22, WA122	12	20	11	31
WA26, WA126, WA34, WA134	12	20	22	31
WA2064	12	13	8 I	31
WA2264	12	20	12 I	31
WILLYS				
38, 48, 4-40, 4-40P	4	1	1½	11
441, 441P, 442, 442P	4	1	2	12



SOFT PRESSURE CHECKS WEAR, TOO

Life-stretching is the big job of the parts and repair industry today. With attention and care, cylinders, pistons and other parts can be protected and preserved long beyond their normal expectancy.

In this situation a major part is being played by Hastings Steel-Vent *soft pressure* piston rings.

Install them with confidence . . . in rebored, resleeved or badly tapered cylinders.

HASTINGS MANUFACTURING COMPANY
HASTINGS, MICHIGAN

Hastings Mfg. of Canada, Ltd., Toronto

★ *It's a privilege to buy War Bonds* ★

HASTINGS

STEEL-VENT PISTON RINGS

U. S. PAT. 2,148,997

Tough on oil-pumping · Gentle on cylinder walls

TRANSPORTATION FORMULAS

VEHICLE SPEED

$$MPH = \frac{RPM \times R}{168 \times FGR}$$

MPH = Miles Per Hour
RPM = Engine Revolutions Per Minute
R = Rolling Radius
FGR = Final Gear Ratio
168 = A constant comprising the conversion of rolling radius in inches to wheel circumference in feet; wheel revolutions per minute to wheel revolutions per hour; feet per hour to miles per hour

ENGINE SPEED

$$RPM = \frac{MPH \times 168 \times FGR}{R}$$

See above for abbreviations

HORSEPOWER

Maximum Net Horsepower (maximum gross horsepower less power consumed by engine accessories) is the only horsepower that should be used in transportation engineering formulas, and can be determined only by using a dynamometer or may be procured from the manufacturer

GRADE ABILITY

$$GA = \frac{TE}{GVW} \text{ minus } .012$$

GA = Grade Ability
TE = Tractive Effort
GVW = Gross Vehicle Weight
.012 = 12 lb. per 1000 lb., rolling resistance on hard-surfaced roads

TRACTIVE EFFORT

$$TE = \frac{\text{lb. in. Torque} \times FGR \times .90}{R}$$

R = Rolling Radius in Inches
FGR = Final Gear Ratio
lb. in. Torque = 12 times Torque in lb. ft.
.90 = Efficiency for all rear axles except worm, then .85

DRAWBAR PULL

$$DP = \frac{.90 \times \text{lb. in. Torque} \times FGR}{R} - .012\ GVW$$

DP = Drawbar Pull
R = Rolling Radius in Inches
FGR = Final Gear Ratio
GVW = Gross Vehicle Weight
.90 = Efficiency for all rear axles except worm, then .85
lb. in Torque = 12 times Torque in lb. ft.
.012 = 12 lb. per 1000 lb. Rolling Resistance

MAXIMUM NET ENGINE TORQUE

Torque in lb. ft. = .70 × cu. in. Piston Displacement. (This is approximate and should be used only when actual torque is not known.)
.70 = Average figure based on analysis of a number of torque curves.

TORQUE AT PEAK HORSEPOWER

$$\text{Torque at Peak HP} = \frac{HP \times 5252}{RPM}$$

5252 = Constant resulting from the conversion of torque and RPM into horsepower
HP = Maximum net horsepower (See Horsepower below)
Peak HP = Maximum useful horsepower

MAXIMUM NET TORQUE

$$\text{Max. Net Torque} = \frac{\text{Torque at Peak HP} \times 5}{4}$$

(This is approximate and should be used only when actual net torque is not known.)
5 and 4 = Figures based on an analysis of a number of torque curves

PISTON DISPLACEMENT

Piston Displacement in cu. in. = B × B × .7854 × S × No. of Cylinders

B = Bore
S = Stroke
.7854 = Constant comprising the conversion of the area of a square to the area of a circle of the same dimensions

FINAL GEAR RATIO

$$FGR = \frac{R \times GVW \times (GA + .012)}{\text{lb. in. Torque} \times .90}$$

GA = Grade Ability
GVW = Gross Vehicle Weight
lb. in. Torque = 12 × lb. ft. Torque
R = Rolling Radius in Inches
.90 = Efficiency for all rear axles except worm, then .85
.012 = Rolling resistance on hard-surfaced roads

AMA HORSEPOWER

(For License Purposes Only)

$$\text{AMA HP} = \frac{B \times B \times \text{No. of Cyl.}}{2.5}$$

B = Cylinder Bore
2.5 = Constant based on average engine in 1906

KEEP 'EM ROLLING



with

BLOOD BROTHERS
UNIVERSAL JOINTS

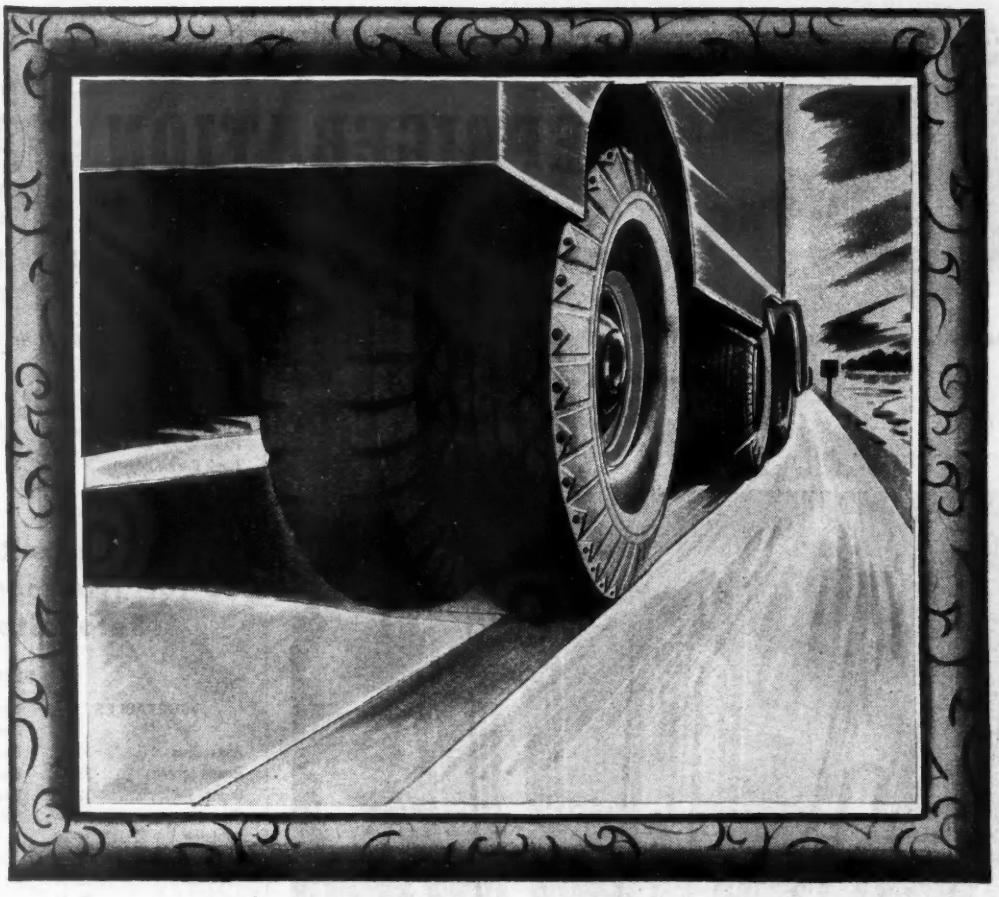
Whatever your requirements, if your problem is to transmit power at an angle, our field and factory experience of more than 30 years is at your command. Our Engineering Department will gladly submit quotations covering your requirements.

BLOOD BROTHERS MACHINE COMPANY
Division of Standard Steel Spring Company
ALLEGAN, MICHIGAN

Backed by over 30 years' Factory and Field Experience



SPECIFY
Blood Brothers
UNIVERSAL JOINTS
FOR RELIABILITY AND ENGINEERING EXCELLENCE



Remember when:

"Mis-mated Duals" Went along for the ride—and nobody worried too much?

Then, all it cost was *money* when you ruined a carcass by letting it carry double its load.

Now, it may cost LIVES!

Don't kid yourself that the Battle of Rubber is won. Natural rubber reserves are about gone—and there are not yet enough synthetic truck tires for even essential transportation. *Wasting rubber is still just like shooting an American soldier in the back!*

Your tires *must* last. *Make* them last—

MATCH YOUR DUALS CAREFULLY
. . . and *keep rolling* at VICTORY SPEED!

INSIDE FACTS ABOUT RUBBER

Plenty of "synthetic" does not mean plenty of tires! Before Pearl Harbor, so-called synthetic tires were only *partly* synthetic. Now, making satisfactory tires from 100% synthetic (not rubber, but a soft plastic) the rubber industry is trying to equal in a few months the high standards developed during 40 years of making tires from natural rubber. That is why—in spite of tremendous progress to date—"plenty of synthetic" does not yet mean plenty of TIRES . . . and may not for some months to come.

SEIBERLING

Heat-Vented TRUCK TIRES

Built by *Experts in Rubber*

1944 FLEET OPERATOR'S REFERENCE ANNUAL

BACK THE ATTACK
KEEP 'EM ROLLING
★

REFRIGERATION DATA

THERMAL CONDUCTIVITY OF INSULATING MATERIALS

Thermal conductivity of various insulating materials per hour per square foot per degree Fahrenheit per inch of thickness

Balsam Wool	.28	Corkboard (7 lb. per cu. ft.)	.27	Dry-Zero	.34
Celotex	.31	Corkboard (10.6 lb. per cu. ft.)	.30	Lata-Balsa	.35
Corkboard (5.4 lb. per cu. ft.)	.25	Corning Wool (1½ lb. per cu. ft.)	.27	Masonite	.33
				Palco Wool	.28
				Rock Cork	.33
				Temlock	.33



BUILT RIGHT *Inside*
THAT'S AP ENGINEERED CONSTRUCTION

AP

Inside the shell of an AP Muffler—you'll find the right inner construction for ORIGINAL EQUIPMENT PERFORMANCE! AP ENGINEERED CONSTRUCTION assures each muffler correctly designed and correctly built ... with various models geared to the varied engine designs. The AP Parts Corporation, Toledo, Ohio.

MILEAGE GETTING
MUFFLERS

Temperatures Recommended for Transportation and Retail Storage

UNFROZEN

VEGETABLES	
Asparagus	33-34
Beans (green)	33-34
Beets	32-40
Brocoli	32-34
Cabbage	32-36
Carrots	33-36
Cauliflower	32-34
Celery	32-34
Corn (green)	36-38
Cucumbers	36-40
Lettuce	32-40
Onions	32-36
Peas (green)	32-36
Potatoes	35-40
Potatoes (sweet)	50-55
Radishes	32-38
Squash	33-36
Tomatoes	35-40

FRUITS	
Apples	32-36
Apricots	35-40
Bananas	55
Blackberries	36-40
Cantaloupes	35-40
Cherries	36-40
Cranberries	33-36
Gooseberries	36-40
Grapefruit	32-36
Grapes	32-36
Lemons	40-45
Oranges	35-45
Peaches	35-40
Pears	32-34
Plums	32-36
Raspberries	35-40
Strawberries	35-40

MEATS AND FISH	
Bacon	30-35
Beef (fresh)	32-40
Eggs	33-36
Fish (fresh)	32-40
Lamb	32-36
Mutton	32-36
Oysters (shell)	30-35
Pork (fresh)	30-34
Poultry	28-30
Veal	35-40

DAIRY PRODUCTS	
Butter	20-35
Cheese	35-40
Milk (sweet)	32-36
Milk (butter)	32-40

FROZEN FOODS	
Eggs	10-15
Fish	10-20
Fruits in syrup	10-20
Ice Cream	5-10
Meats	10-20
Vegetables	5-10

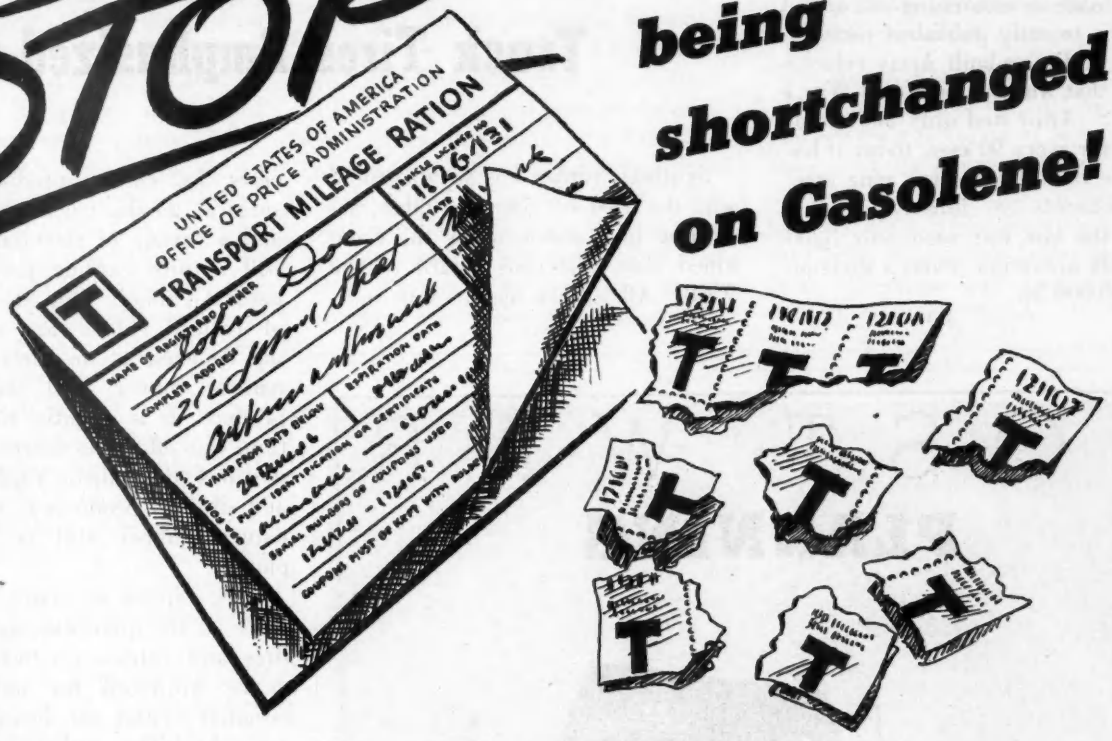
Courtesy American Society Refrigerating Engineers

Desirable Wall Conductivities for Perishables

(Wall conductivities generally desirable for the transportation of various types of perishables.)

Type of Truck	B.T.U. per hour per degree Ft. per square foot
Bakery, candy and bread trucks	.60
Trucks for bulk and smoked meats	.15 to .30
Trucks for sausage and fresh cut meats	.10 to .20
Ice cream, quick-frozen food trucks	.06 to .05
Trucks for solid carbon-dioxide transport	.03 to .05

STOP being shortchanged on Gasolene!



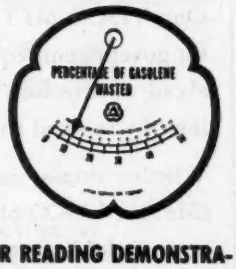
*** SURVEY OF 4200 VEHICLES REVEALS MORE THAN 2000 WASTING FROM 15% TO 40% OF DAILY FUEL ALLOTMENTS.**

YOU put *10* gallons of gasolene in the tank and probably get back only 8 gallons worth of mileage—the other 2 smoke out of the exhaust—unused—wasted! That's what's happening to more than half the vehicles in every fleet on the road... *yours may be included!*



The Cities Service Power Prover is an exclusive instrument which will measure the efficiency of your motor in one simple operation, showing immediately and accurately on the Power Prover dial the percentage of gasolene being wasted, thus enabling you to track down and remedy the source of trouble.

The Power Prover measures the number of unburned gasolene units in the exhaust gases. For example, if 100 units of gasolene are injected into the cylinder and 30 are left unburned, the Power Prover Motor Reading would indicate a 30% waste.



* 175 fleets were checked in Long Island City, Newark, Hartford, Boston, Hagerstown and Pittsburgh . . . with the following results:

PERCENT OF VEHICLES CHECKED	PERCENT OF GASOLENE WASTED
65% showed waste of	15% or over
51% showed waste of	20% or over
44% showed waste of	25% or over
28% showed waste of	30% or over
17% showed waste of	35% or over
11% showed waste of	40% or over

FREE POWER PROVER MOTOR READING DEMONSTRATION ON ONE OF YOUR OWN VEHICLES

(This offer is available only in principal cities in Cities Service marketing territory East of the Rockies.)

MAIL THE COUPON *NOW!*

CITIES SERVICE OIL COMPANY
Room 169
Sixty Wall Tower
New York 5, New York

Gentlemen: Please contact me regarding your Power Prover Motor Reading offer.

Name.....

Company.....

Address.....

City.....State.....

CITIES SERVICE OILS — ONCE-ALWAYS

CITIES SERVICE OIL COMPANY

ARKANSAS FUEL OIL COMPANY

Truck-Soldier Ratio 1-9

Indicative of the tremendous strides made in motorizing our armed forces, a recently published pictorial history of Dodge-built Army vehicles reveals that whereas in World War I the U. S. Army had only one motor vehicle for every 90 men, today it has a motor vehicle for every nine men. Also, whereas an infanty division during the last war used only 3200 hp. in its operation, today's division uses 400,000 hp.

Need of Crude Rubber in Truck Tires Emphasized

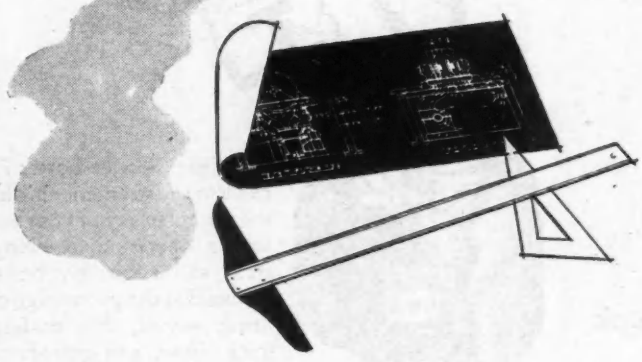
Synthetic rubber has not dispensed with the need for natural rubber, according to a statement by the Combined Raw Materials Board of the WPB. All experience to date indicates that certain products such as surgical goods, truck and bus tires and a variety of essential war items still require varying percentages of natural rubber. Our small supplies of natural rubber are steadily being depleted as we continue to mix natural rubber with the synthetic product. It is essential that we continue our efforts to increase the proportions of synthetic rubber in tires and all other products in which some natural rubber still is being employed.

Very careful estimates have been made of the quantities and types of tires and rubber products required to be produced for military and essential civilian use during the coming year. The authorities in both the United Kingdom and the United States are reducing to the minimum the amount of natural rubber which the manufacturers will be permitted to use in meeting this program. Nevertheless, the amount of crude rubber which must be released if essential needs are to be met will dangerously deplete our natural rubber reserves and leave our stock position at the end of the year at below the minimum set in the Baruch report. The situation in 1945 will be further aggravated unless more natural rubber than is now in sight is forthcoming.

In other words, despite the great success to date with the synthetic program and the need for bringing it to maximum production at the earliest possible date, we are consuming natural rubber at a considerably greater rate than we are receiving it from the few sources still available to us. Even at the lowest rate to which we can compress natural rubber consumption, supply and requirements of natural rubber will not be in balance. It is, therefore, essential that the greatest possible economy in the use of natural rubber continue to be maintained and that every step be taken to increase the amount of natural rubber available to the United Nations.

POST WAR

PLANNING



Our VISCO-METER* production for government requirements is well ahead of schedule, so we're thinking of you—and tomorrow.

Whether or not you eventually decide that VISCO-METER* can be a most useful "operation feature" and "sales point" is not so important at the moment. The important point is do you *know* the complete VISCO-METER* story—what it is—what it does—why other manufacturers of internal combustion engines (both gasoline and Diesel) have made VISCO-METER* part of their engines?

The VISCO-METER* story is a technical story you can't afford not to hear. For that reason we are inviting every manufacturer, engineer or designer concerned with the production or marketing of internal combustion engines to write us. Arrangements will be made for a meeting in your office—without obligation.

VISCO-METER

CORPORATION GROTE ST., BUFFALO 7, N. Y.

**VISCO-METER has been in world wide service for fourteen years. Fully covered by U. S. and Foreign patents.*

Warehousemen Warned to Conserve Truck Equipment

In an address before the annual convention of the National Furniture Warehousemen's Association in Chicago, George H. Scragg, director of advertising and sales promotion of The White Motor Co., called on association members to undertake a far-reaching maintenance and conservation program for their trucks. Mr. Scragg reminded his audience that "the furniture storage and warehouse industry can expect no help from new trucks to replace old and worn-out equipment." He said "the trucks you have now must last for the duration."

To keep the industry's rolling stock on the road, Mr. Scragg recommended that members of the trade take cognizance of the tremendous strides that have been made in preventive maintenance and conservation practice.

"No longer is it considered sufficient merely to repair trucks and replace parts when they break down or are worn out. Now it is recognized that breakdowns and worn-out parts must be prevented," he said. "Experience tables now available prescribe as accurately as a doctor the steps necessary to maintain the health of a truck. This is the scientific approach to the greatest equipment problem we have ever faced."

Turning his attention to the important part the driver plays in truck maintenance and conservation, Mr. Scragg urged the warehousemen to give new drivers thorough and continuing training. "Such training cannot be haphazard and perfunctory," he said. "Drivers are too important to economical and efficient operation to be dismissed with half-hearted instruction."

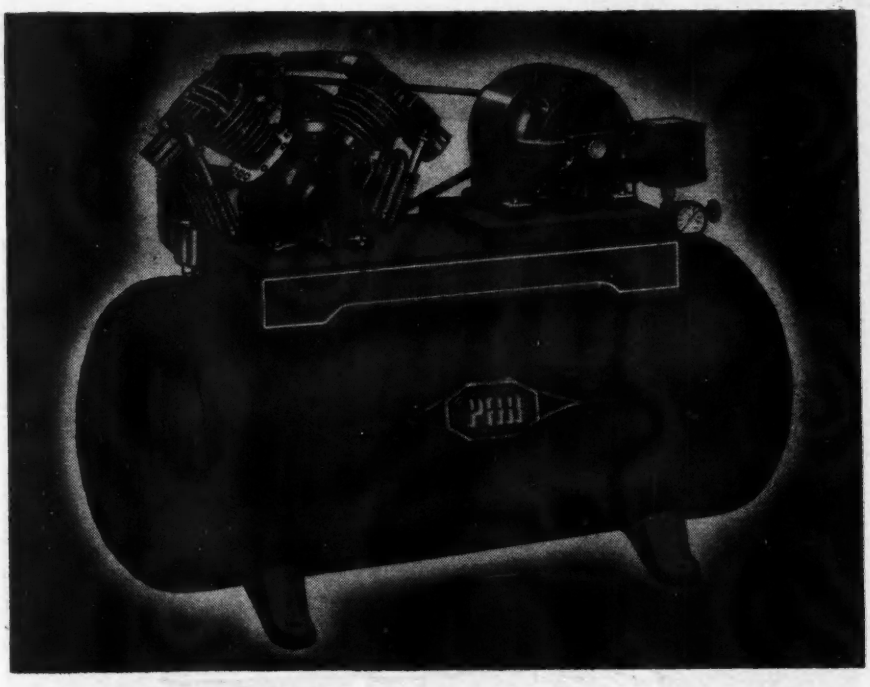
According to Mr. Scragg, the end of the war will definitely not mean the end of the need for intelligent maintenance and conservation. "Even when new trucks are again available in quantity," he continued, "they will still need the maintenance and conservation we must give today's vehicles. All trucks, no matter how skillfully designed and well built, do wear out. Only through careful and continuous maintenance and conservation practices can we secure from trucks the many, many miles of good service manufacturers build into them."

Brake Shoe's Pilot Plant

The American Brake Shoe Co. has opened a new Experimental Foundry at Mahwah, N. J. This is a different kind of pilot plant. Instead of operating on a miniature basis as do most pilot units, this plant is a full-sized foundry capable of handling castings up to 2000 lb. gross weight. But only experimental work will be done in the foundry. While this plant had been planned as the next step in the company's extensive program of metallurgical research which has been carried on for many years, the priority situation on construction materials had postponed erection.

New Mogul Flux Bulletin

The Metallizing Co. of America, pioneer manufacturers of metal spray equipment, have just published a new bulletin on Mogul Flux. It contains valuable shop information on how to save time, money and labor, applications, directions and general information, including prices.



PAR MODEL 20

- **A Heavy Duty 2 H.P. two stage 4 cylinder compressor equipped with 60 gal. tank.**
- **Designed especially for the average station or shop doing more than usual volume of air appliance operations.**
- **Maintains tank pressure of 175 pounds, assuring adequate air supply at all times.**

- ***Write for illustrated brochure of details.***
- ***BY COMPARISON—YOU'LL BUY PAR.***

PAR DIVISION

LYNCH MANUFACTURING CORPORATION
DEFIANCE, OHIO, U. S. A.

CCJ QUIZ

by ROBERT F. BAHL

This month's CCJ QUIZ takes you all around the world. All the questions deal with trucks, tires, oil, etc.. in some far off corner of the globe.

Your job is to select the right corner. Each question has a value of 10 points, so if you're a real "driver's seat" strategist you ought to score 100. Answers are on page 128.

1.

While we have been working feverishly to produce synthetic rubber from oil, this country has actually been producing synthetic oil from rubber. It is . . .

a. Japan
b. Russia
c. China
d. Brazil

2.

This country is about as large as the United States, but until American servicemen moved in there wasn't a roadside drive-in restaurant in the land. Now, drive-in restaurants dot the highways all over . . .

a. Tunisia
b. Italy
c. India
d. Australia

3.

Whenever you're inclined to start complaining about tire rationing, it might be well to remember that this country had already confiscated all privately owned tires in September, 1939, the same month the war began . . .

a. Germany
b. England
c. Russia
d. France

4.

Across 800 miles of blistering desert and tortuous mountain passes, American motor trucks have delivered more than a million tons of war goods to Soviet Russia. These trucks are daily plying across . . .

a. Turkey
b. Finland
c. Iran
d. Burma

5.

This country was managing to get along alright without gasoline, using producer gas from charcoal burners. But, there was a shortage of wood, and so now the charcoal burners are being replaced by coke burners. The country is . . .

a. Sweden
b. Denmark
c. Ireland
d. Turkey

(TURN TO PAGE 122, PLEASE)





From the first, Snap-on tools have been built not only to do the job better, faster and easier . . . but to *last longer* . . . in hardest service! And that counts big today! America's desperate need to *keep 'em rolling* extends from the home front right around the world . . . to blazing invasion fronts where lack of essential tools would lose battles and cost lives. So, *treasure your Snap-ons* . . . don't let a single one go out of service as long as it is repairable. Remember, for many Snap-on tools, replacement parts are carried in stock at every Snap-on factory branch. Tell your wants to your Snap-on man, or contact the nearest branch!

SNAP-ON TOOLS CORPORATION, 8026-D 28th Ave., Kenosha, Wis.

CCJ QUIZ

(CONTINUED FROM PAGE 120)

6.

Sixteen years ago, Ford Motor Co. launched its famous plantation experiment. Last year 500 tons of much needed rubber came into this country from that source. The plantation is . . .

a. Brazil
b. Liberia
c. Ceylon
d. Costa Rica

7.

You couldn't miss the answer if we mentioned his name here, so we'll just say that he is responsible for triptane, called the "gasoline of tomorrow," and ask you to give his nationality. The professor is . . .

a. Irish
b. Norwegian
c. Russian
d. Chinese

8.

Have you ever heard of Eugene Triulzi? He's the man from General Motors whose fame has spread because in less than eight months he made good mechanics out of 800 untrained natives. The natives were . . .

a. Ubangis
b. Egyptians
c. New Guineans
d. Hindus

9.

In which of these countries would you say the Army's $134,000,000 Canol oil project is located?

a. Alaska
b. Canada
c. Mexico
d. Colombia

10.

Modern truck production is becoming more and more dependent on alloy steels. To close this world-wide quiz, match up these alloying elements with the principal producing countries. You get two points for each correct matching.

a. Manganese	1. Canada
b. Nickel	2. China
c. Tungsten	3. Korea
d. Vanadium	4. Peru
e. Natural Graphite	5. Russia

Correct Answers on Page 128



paving the way for

FULTON POSTWAR PRODUCTS

Small, harmless-looking parts and equipment such as shown here, are important today in helping America and her Allies surge toward Victory. It is fortunate that Fulton engineering and manufacturing facilities have enabled us to produce these items in large volume, to precision standards . . . to meet the vital needs of Aircraft and Ordnance Manufacturers whose equipment would be *incomplete* without this materiel.

By helping to speed the production of "War Machines," and in some cases increase their efficiency, thus helping to bring V-Day closer, these Fulton-made products are paving the way for Fulton Postwar Products . . . *merchandise* for peacetime *use* and *sale.*

We're backing the attack today . . . and we'll be back on the track for "full-steam-ahead" forward progress when the grim task now confronting us has been completed. And yes . . . we are open to ideas and suggestions from our friends in the Automotive Industry. *What are yours?*

THE FULTON CO. 1912 South 82nd Street Milwaukee 14, Wisconsin

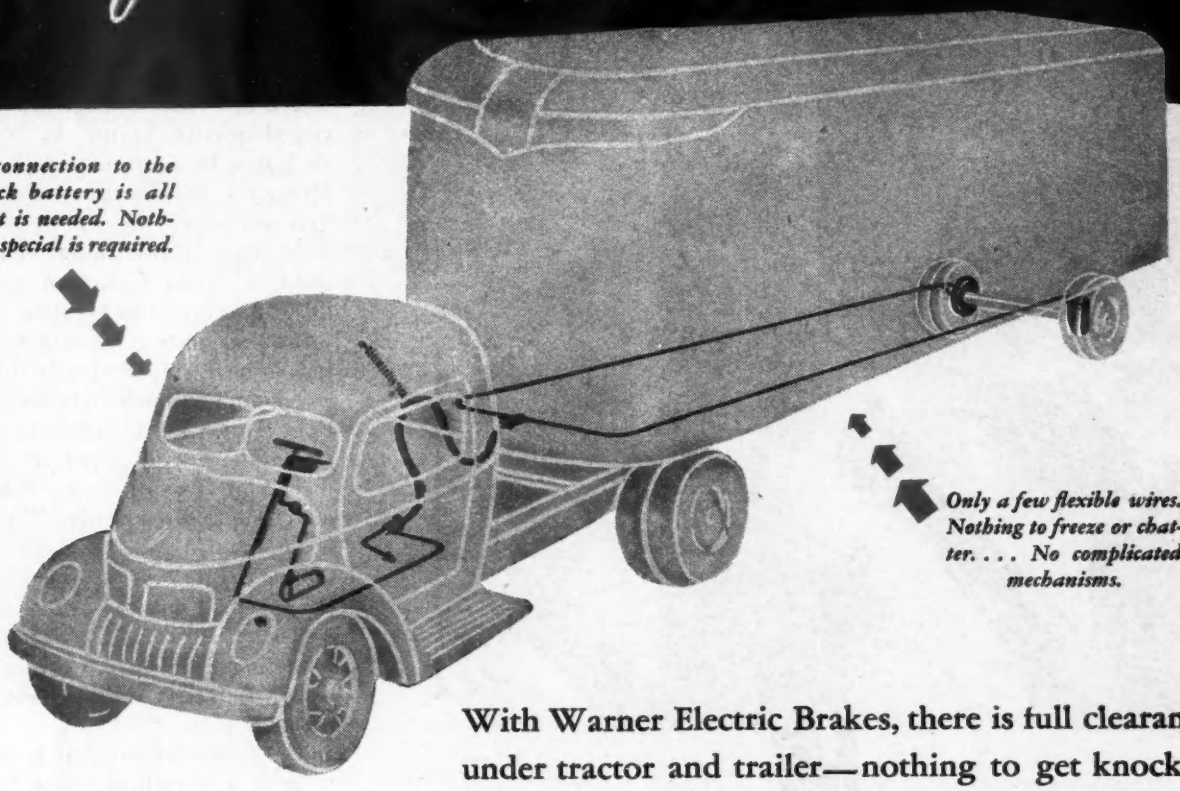
Permanent License Plates of Aluminum Considered

Post-war vehicles may be equipped with permanent aluminum license plates. Motorists in Connecticut have used them successfully since 1937 and investigational work is now actively under way by authorities in several other states. The changeover is under special consideration at the present time because of the accumulated surplus of aluminum over and above our country's war needs.

Aluminum license plates offer a number of important advantages. They are non-rusting and weather-proof and will retain their attractive appearance throughout the life of the vehicle. Conservative estimates place the life of these plates at five years. Recent laboratory examination of Connecticut plates, issued in 1937, showed them to be still in excellent condition.

Aluminum license plates are stamped from sheet, then given a chemical bath to build up corrosion resistance and adhesion to paint. The plates are finished in the usual manner, using the heavy weather-resistant enamels developed for the purpose. In the case of Connecticut, black letters are used against a bright background of silvery aluminum.

NO OTHER BRAKE EQUALS THE WARNER ELECTRIC BRAKE *for* SIMPLICITY

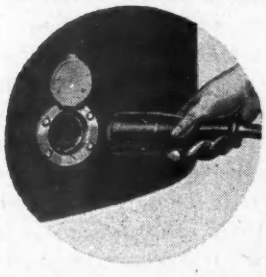


A connection to the truck battery is all that is needed. Nothing special is required.

Only a few flexible wires. Nothing to freeze or chatter. . . . No complicated mechanisms.

With Warner Electric Brakes, there is full clearance under tractor and trailer—nothing to get knocked off or leak—no exposed braking equipment—no rods to rattle—no tubing to split—no condensation to freeze. Warner Electric Brakes require only a wire to each wheel and will operate under water without short circuiting. Minimum maintenance cost.

PLUGS IN AND OUT LIKE A RADIO



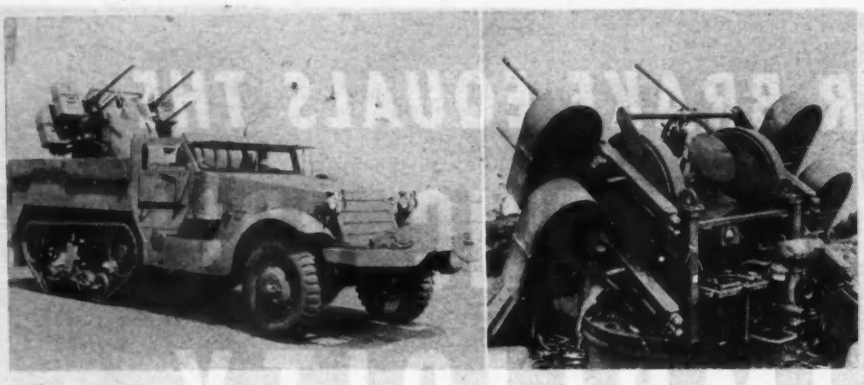
The plug-in cable provides current for brakes, tail light, stop light and running lights.

Right now, the needs of our armed forces come first! However, if you are on the "essential" list we can supply you with brakes.



WARNER
ELECTRIC BRAKES

WARNER ELECTRIC BRAKE MANUFACTURING COMPANY • BELOIT, WISCONSIN



Left. The new M-16 combines the ground speed and maneuverability of a Half-Trac with the firepower of a multiple anti-aircraft gun. Right. The "wasp's stingers." The four 50 cal. barrels, capable of firing up to 2000 rounds per minute simultaneously on a single target, are synchronized

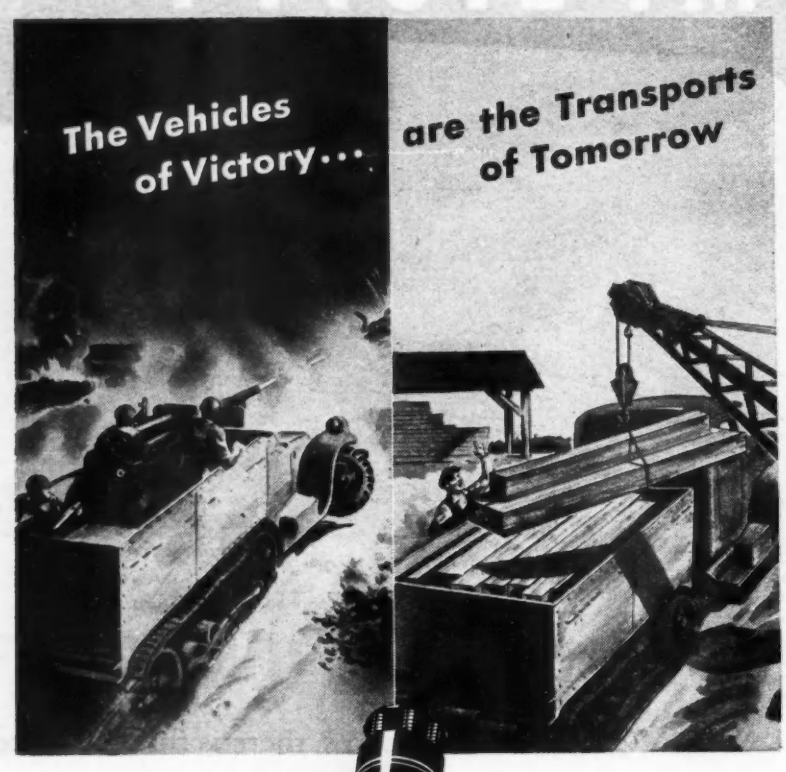
"White Wasp Wagon" Is New Mobile Weapon

The first public demonstration of the new and deadly M-16 mobile anti-aircraft unit was given recently on the Cleveland, Ohio, lakefront before press reporters, photographers, newsreel men, and others who were considerably impressed by the firepower of this multiple-barreled weapon. The demonstration was staged jointly by the U. S. Army Ordnance Department and The White Motor Co., manufacturer of the Half-Trac on which the gun is mounted. This marked the initial announcement by Army Ordnance regarding this hitherto secret weapon—a unit which has proven sensational in its results on European battle fronts.

The unit, officially labeled the Multiple Anti-Aircraft Gun Motor Carriage M-16, and popularly dubbed the "White Wasp Wagon," consists of a speedy and versatile, White-built armored Half-Trac on which is mounted a multiple-barreled, .50-caliber machine gun that offers the concentrated and synchronized fire from four barrels simultaneously. Such fire on a single target has proved devastating in its effect.

The four-barreled gun is swiveled to give it a vertical range from 10 deg. below horizontal to 90 deg. upward, while the revolving turret permits 360 deg. of action. Thus it can cover every inch of sky and can fire in any direction horizontally. The gun is electrically and hydraulically driven with an individual gasoline engine to furnish the motive power.

This latest development in mobile anti-aircraft weapons is used principally in defending ground troops and supplies against the strafing and bombing by enemy planes. It can also be turned on enemy personnel and ground equipment or strong points. Capable of throwing out .50-caliber, armor-piercing bullets at a cyclic rate up to 2000 a minute, the M-16 has a top speed of about 50 m.p.h. and a cruising range of almost 300 miles.



And then, as now, you'll find the Bendix* Drive in at the start

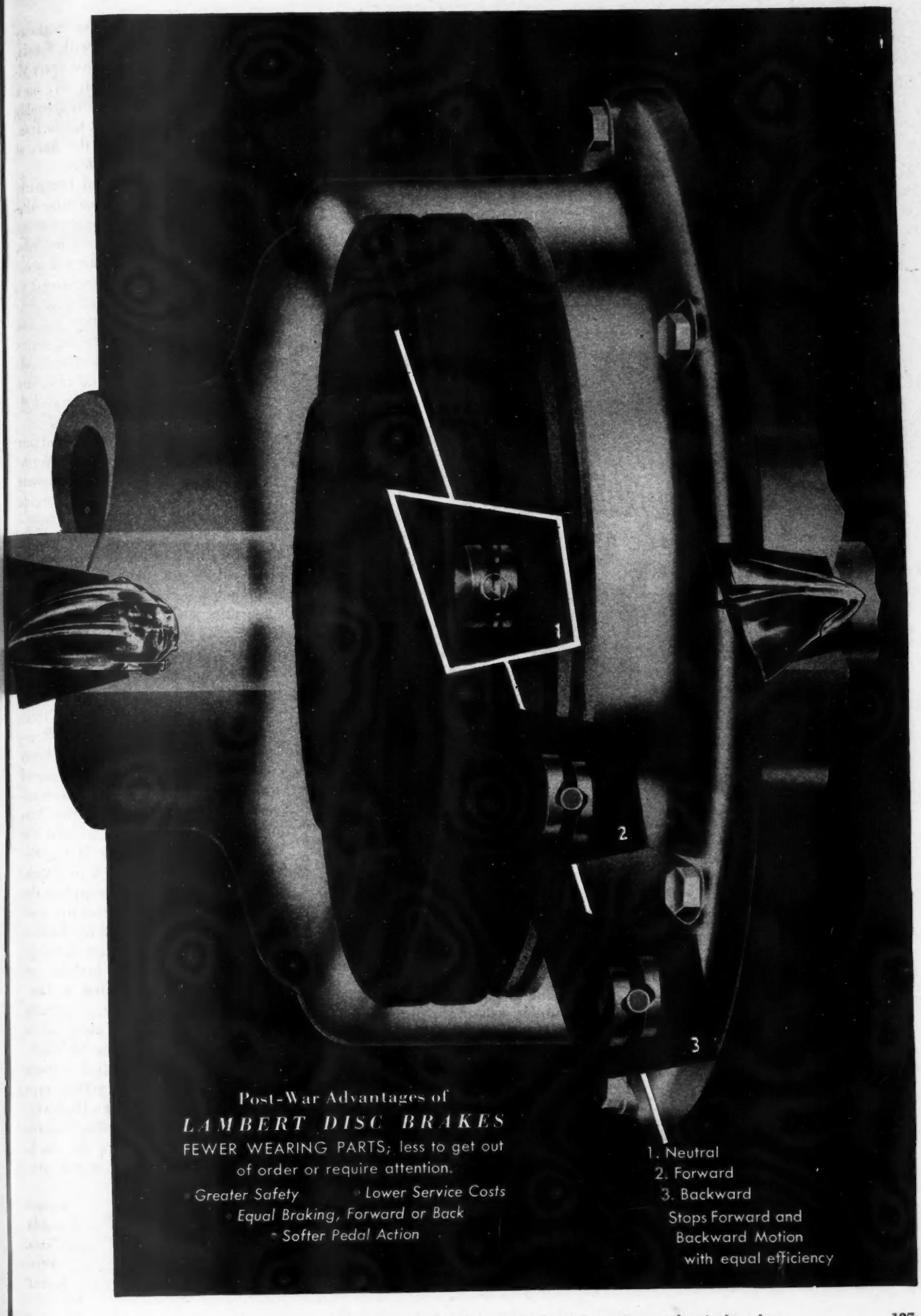
Today, Army half-tracks are clearing out the enemy. Tomorrow, re-designed for civilian use, they will be preparing the ground... making way for vast, new projects. The Bendix Drive . . . that famous starting unit you've always known . . . has been adapted for use on all types of Army vehicles, both large and small. And in the post-war years, too, you can depend on the Bendix Drive to meet successfully any starting requirement that may come along, no matter how complex or revolutionary the change.

The Bendix Drive is an important member of "The Invisible Crew" —precision equipment which more than 30 Bendix plants from coast to coast are speeding to our fighting crews on world battle fronts.

THE INVISIBLE CREW
Precision Equipment by
Bendix
Aviation Corporation

*TRADE MARK OF BENDIX AVIATION CORPORATION

ECLIPSE MACHINE DIVISION


1
2
3
Post-War Advantages of
LAMBERT DISC BRAKES
FEWER WEARING PARTS; less to get out of order or require attention.
Greater Safety
Lower Service Costs
Equal Braking, Forward or Back
Softer Pedal Action
1. Neutral
2. Forward
3. Backward
Stops Forward and Backward Motion with equal efficiency

QUIZ ANSWERS

CCJ Quiz on Page 120

1. a. Japan. A report via Germany on Japanese activities in Far Eastern rubber indicates that Singapore Rubber Mills, Ltd., which before the war remilled native rubber, has been reorganized under the Japanese name of Shonan, Gomu, Kumia and is producing oil from rubber on a fairly large scale. Experiments conducted by Europeans several years ago showed this process to be quite expensive. Apparently, though, the Japs find it more practical to produce oil by this method than to try to put oil wells in captured lands back into working order.

2. d. Australia. Roadside restaurants, affording a sort of oasis for cars and trucks, are a distinctly American innovation.

3. a. One of the first acts of the German Government after the war broke out was to confiscate the tires on every private car . . . at once.

4. c. Iran. The American Army has constructed a modern highway linking the Persian Gulf with Russia, and hundreds of trucks now carry vital lend-lease goods to our ally on a regular schedule. Two reassembly plants have even been set up in Iran, and new trucks roll off the lines at the rate of one every 10 min.

5. b. In Nazi-controlled Denmark, according to reports reaching this country, coke burners are now being used almost universally. The coke, a by-product of a synthetic oil process, is brought in from Germany.

6. a. Brazil. Ford has a 2,500,000-acre concession in the Amazon Valley, although only 24,000 acres are cultivated at present. Four million five hundred thousand trees are planted, estimated to become full-bearing by 1950.

7. c. Russian. Professor Vladimir Nikolaievich Ipatieff, now at Northwestern University, changed triptane —a fuel so powerful that no engine can yet use it to full advantage— from a laboratory curiosity worth $3,600 a gallon to a promising super-fuel costing less than $1 per gallon. Triptane is far more powerful than 100-octane gas. Incidentally, Prof. Ipatieff is also largely responsible for 100-octane fuel and the major research in butadiene.

8. b. Egyptians. The Allies had to have mechanics quick to keep their trucks and tanks rolling against Rommel in North Africa. The Army issued a hurry-up call and General Motors sent 39-year-old Triulzi, manager of all Chevrolet's service stations, to Egypt. In eight months the Army built an Ordnance Motor Reconditioning School near Cairo. General Motors Middle East supplied the equipment, and Triulzi and his four assistants created 800 good mechanics.

9. b. Canada. This huge development, intended to furnish fuel for our forces in Alaska, is located in Canada's Northwest Territory, practically on the Arctic Circle. A pipe line is being built from the project to Whitehorse, where a second-hand refinery is being reassembled. Another pipe line then runs to the Alaska Highway.

10. Using latest available figures (in most cases just before the war), these are the leaders in world production:

a. Manganese	Russia
b. Nickel	Canada
c. Tungsten	China
d. Vanadium	Peru
e. Natural Graphite	Korea

On the War Front with



It takes dump trucks, too, to win this war! Dump trucks like this Federal 26 with hydraulic hoist dumpbody! Join with us in saluting these Federals for their efficiency in preparing the way for our armies to follow . . . for helping build the airstrips for our bombers and fighters . . . for the thousand and one tough jobs that are routine for them.

Protecting these Federal Engines from abuse are Hoof *full power* Governors . . . they're a vital factor in conserving the stamina that's built into these engines without restricting their great engine power.

While Hoof *full power* Governors have gone to war, they are also available under existing regulations to to the transport industry. Write for a copy of the *Free Booklet*, "Everything Under Control," and the name of your nearest Hoof Jobber.



HOOF PRODUCTS COMPANY, 6543 SOUTH-LARAMIE AVENUE, CHICAGO 38, ILLINOIS

HOOF *FULL POWER* GOVERNORS

Hi-LIFT LOADER

for Cargo Planes



Cargo planes require quick loading and unloading. Modern Hi-Lift Hoists are essential. Gar Wood has been building Hi-Lift Units for many years—for chuting coal, for icing railroad refrigerator cars and other purposes.

The Gar Wood Hi-Lift Units manufactured during peacetime have been designed and constructed to meet wartime requirements. The Unit illustrated was built to the specifications of the U. S. Army Air Corps—is fast-operating and lifts 8,000 pounds.

Descriptive Bulletin No. H378 will be Forwarded Upon Request.

GAR WOOD INDUSTRIES, INC.

HOIST AND BODY DIVISION • DETROIT 11, MICHIGAN



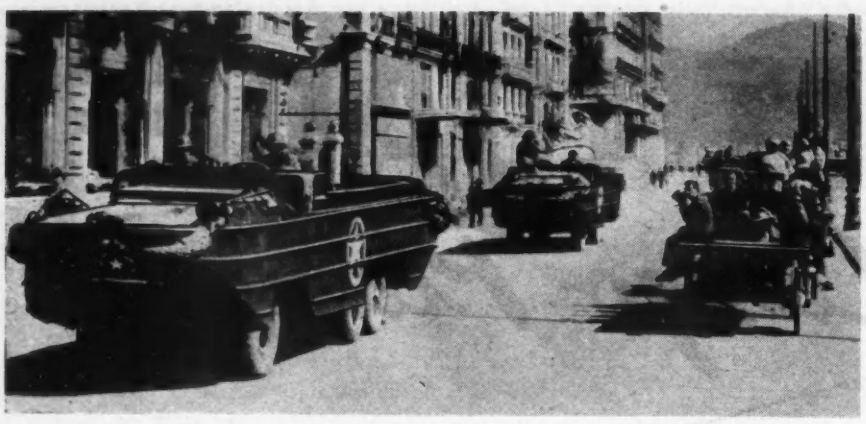
PLANE LOADER
Fully Elevated



ICING CARS



CHUTING COAL



When retreating Nazis wrecked the harbor at Naples to block Allied shipping, they didn't stop the "Duck." These 2½-ton, six-wheel-drive, amphibian trucks took off from transports at sea, swam through the bay, picked open landing spots and rushed supplies to the advancing Fifth Army

Army Steps Up "Duck" Output

On the basis of past battle achievements, the Army Ordnance Department is stepping up production of amphibious trucks.

Battle reports from the Mediterranean and Southwest Pacific theaters contained highest praise of the 6-wheeled 2½-ton amphibian truck, popularly known as the "Duck," which is procured by Army Ordnance for the Transportation Corps and maintained in the combat zones by Ordnance mechanics.

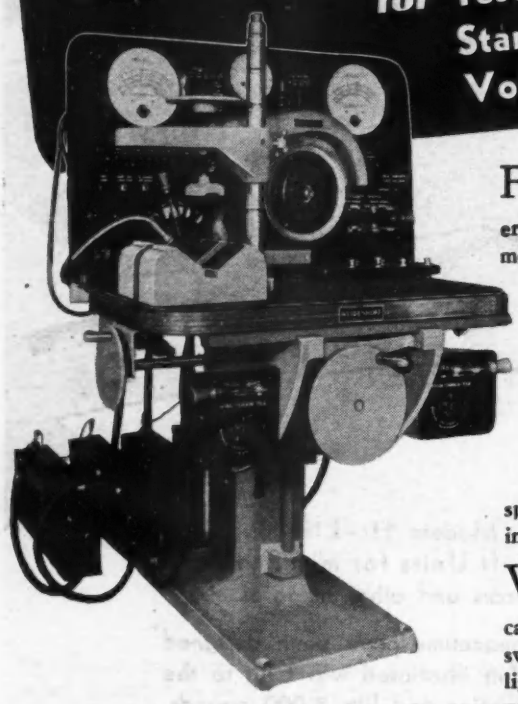
Main feature of the "Duck" is that it can pick up battle supplies from a transport or LST (Landing Ship, Tank) and bring them to shore or to an ammunition dump some miles inland. Amphibious trucks handled a big part of the tonnage going in to the Nettuno beachhead just south of Rome. They were also used as deep-water traffic stations from which MP's directed incoming combat units and supplies.

A company of "Ducks" also played a prominent role at Salerno, in the early days of the Italian campaign, bringing food, water, gasoline and other supplies to help the infantry blast the enemy off the beaches. The "Ducks" were loaded and placed in the water 12 miles from shore at 2 A. M. In the darkness they slipped in unobserved.

This sensational sea-going truck has an overall length of 31 feet, is 8 feet wide and 7 feet high. The "Duck" is not a combat vehicle. It is used, not only in Europe but in the Southwest Pacific, where speed is essential in forcing a river crossing. It has also proved its worth in surprise landing operations where shoals, reefs or sandbars are encountered and where the use of an assault boat would be impractical.

On land, the "Duck" can be driven through all six wheels—in the same manner as the standard Army Ordnance six-wheeled truck. In the water, however, it is driven by a rear-mounted propeller.

WEIDENHOFF
GENERATOR TEST BENCH
for Testing Generators, Starting Motors and Voltage Regulators



Batteries Not Furnished

FOR years Weidenhoff Generator Test Benches have helped fleet operators to keep generators, starting motors and related electrical units in top notch condition.

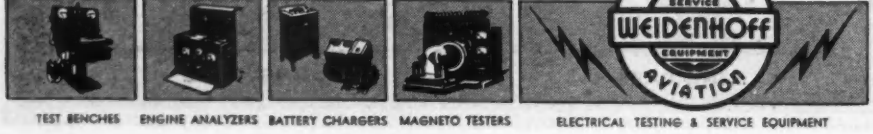
The Model 501 illustrated is a powerful super bench for testing heavy duty generators, with high speed for light duty generators. Two-speed gear transmission furnishes maximum power at speeds needed to meet varying demands in testing.

WEIDENHOFF test benches are great time savers. No complicated hook-ups. Push button type switches in conjunction with pilot lights instantly select and indicate ammeter and voltmeter scales. Only 3 connections are necessary with externally controlled generators. All other connections are incorporated within the bench. Generators tested both directly coupled to output shaft of transmission or by belt drive. All controls, switches, etc., plainly marked for quick, easy operation.

More and more fleet operators are finding the right answer to present-day problems with Weidenhoff equipment. It conserves available man-power and helps to keep electrical units in the best possible condition. You, too, will benefit by sending for the full facts on the Model 501 Test Bench and what it will do for your service.

KEEP ON BUYING WAR BONDS

Joseph Weidenhoff, Inc. Chicago 24, Illinois.



TEST BENCHES ENGINE ANALYZERS BATTERY CHARGERS MAGNETO TESTERS ELECTRICAL TESTING & SERVICE EQUIPMENT

PROVING GROUNDS

In the roaring engines of PT boats . . . in 78 types of those flashing Allied planes . . . under the doggedly-advancing hoods of supply trucks . . . wherever motors must stand up to the gaff of war—there you will find American Hammered Piston Rings at work. For your needs, also, American Hammered supplies the correct piston ring—in every size—of every type—for every purpose. Koppers Company, American Hammered Piston Ring Division, Baltimore, Md.

WAR PLANES USING AMERICAN HAMMERED PISTON RINGS

A-20 Havoc
A-24 Dauntless
A-25 Shrike
A-29 Hudson
A-30 Baltimore
A-31 Vengeance
A-34 Buccaneer
A-36 Invader
B-17 Flying Fortress
B-23 Dragon
B-24 Liberator
B-25 Mitchell
B-26 Marauder
B-29 Superfortress
B-34 Ventura
C-43 Traveler
C-45A Voyager
C-46 Commando
C-47 Skytrain
C-53 Skytrooper
C-54 Skymaster
C-56 Lodestar
C-61 Forwarder
C-69 Constellation
C-76 Caravan
C-87 Liberator Express
J-4-F Widgeon
L-1 Vigilant
L-2 Hedgehopper
L-3 Grasshopper
L-4 Grasshopper
L-5 Sentinel
O-52 Owl
P-40F War Hawk
P-43 Lancer
P-47 Thunderbolt
P-51B Mustang
P-61 Black Widow
P-66 Vanguard
AT-6 Texan
AT-7 Navigator
AT-8 Bobcat
AT-9 Jeep
AT-10 Wichita
AT-11 Kansas
AT-13 Yankee Doodle
AT-14 Yankee Doodle
AT-15 Crewmaker
AT-17 Bobcat
AT-19 Reliant
BT-13 Valiant
BT-15 Valiant
PT-13 Caydet
PT-17 Caydet
PT-19 Cornell
PT-22 Recruit
PT-26 Cornell
F2A Buffalo
F4F Wildcat
F4U Corsair
F6F Hellcat
N2T Tutor
OS2U Kingfisher
PBM Mariner
PBY Catalina
PB2Y Coronado
SB2A Bermuda
SB2C Helldiver
SB2U Vindicator
SBD-3 Dauntless
SO3C Seagull
SNC Falcon
SNJ Texan
SBD Devastator
TBF Avenger
XPB2M-1 Mars
YO-51 Dragonfly
Sikorsky Helicopter





PT (PATROL TORPEDO) BOAT

American Hammered Piston Rings

A KOPPERS PRODUCT

Post-War Gasoline

by D. P. BARNARD

Associate Director of Research, Standard Oil Co. of Indiana

It has been widely assumed that the 100 octane number gasoline developed in large quantities for war planes will be the super fuel of post-war automobiles.

Actually, the octane number of gasoline generally available for automobiles after the war is not likely to average more than three numbers higher than that of the pre-war product. This is primarily because the economics of producing aviation gasoline for war and motor gasoline for peace-time operation are vastly different.

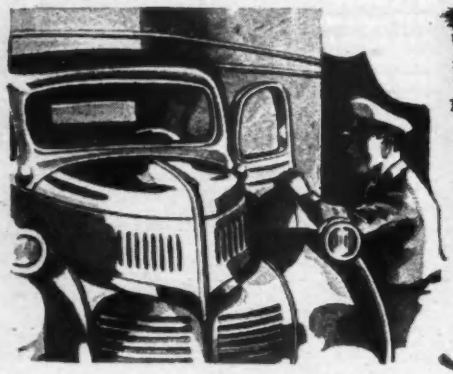
The daily output of 100 octane number gasoline is now many times larger than it was before Pearl Harbor, and it is still increasing. That result has been achieved by building new equipment and adopting emergency techniques and practices in refinery operation, whatever the cost. This has been possible only because of authorization b ythe Petroleum Administration for War.

The economics of making motor gasoline for a peace-time market are very different. Competition makes it necessary to employ techniques that will produce as much gasoline of as good a quality as automobile engines can use, and no better, from the least amount of crude and at as low a cost as possible. That situation is certain to govern again in the post-war period. Many of the practices which are being employed to produce all the 100 octane needed for war planes are not economical enough for producing motor gasoline. For this reason it may not be feasible to use in motor gasoline manufacture much of the equipment which is today pouring out material for aviation.

Stepping up the octane number of aviation gasoline is also a much smaller undertaking than similarly stepping up the octane number of motor gasoline would be. Large as our production of aviation gasoline has become it is still much less than the peace-time demand for motor fuel. Production of high octane materials goes a long way in making aviation gasoline, but would have to be spread very thin over the vast quantity of motor gasoline. One hundred octane number fuel is likely to be after the war, as now, a fuel for airplanes only. However, the fuel which will be available will be of more adequate quality for cars.

Prospects for sound progress rest less on utilization of the techniques which have built up the supply of aviation gasoline so quickly than they do on the efforts of petroleum chemists to find cheap ways of converting low octane materials into high octane. Out of some 6000 possible hydrocarbon components of what is ordinarily known as gasoline, only a few are high in octane number. For years the petroleum indus-

(Turn to Page 134, Please)



RAISING S.Q.* YOUR OPPORTUNITY TO PROTECT AND PROFIT

Certainly, no one type of automotive service can protect and prolong the life of the entire vehicle. But, of all services, none can raise your drivers' S.Q. so much or so quickly as raising the quality of the reline job.

For braking performance that provides utmost safety to drivers; protects and prolongs the life of your equipment, use Grizzly Brake Lining. Full-moulded and precision machined, Grizzly Brake Lining is engineered for quick, labor-saving installation as well as long, efficient service under all conditions. It will help your drivers to a higher **Safety Quotient***.



Ask your jobber or write today to GRIZZLY MANUFACTURING COMPANY, PAULDING, OHIO
Plants at Paulding and Los Angeles



Always . . . Bear in mind

GRIZZLY
REG. U. S. PAT. OFF.
BRAKE LINING

The right American Brakeblok heavy duty brake lining *conserves trucks and tires*



Good brakes help drivers do a top job of truck and tire conservation. The right American Brakeblok heavy duty brake lining increases the safety factor of brakes and lowers maintenance cost.

For efficient brake operation American Brakeblok engineers developed three specialized heavy duty brake linings, tested not only in a scientific laboratory but by thousands of miles operating experience in every State in the Union.

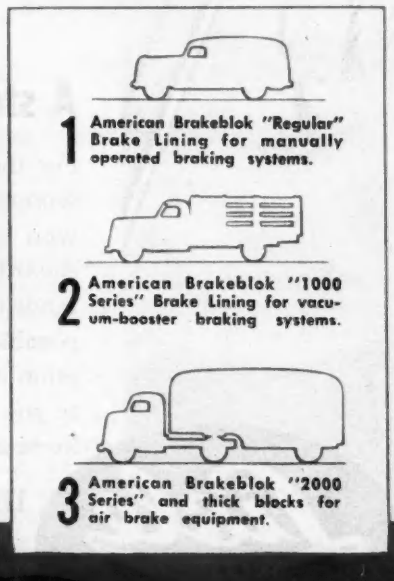
If you have brake lining problems, take advantage of our research division, use the FREE Advisory Service. Write

American Brakeblok Division, Detroit 9, Mich.

FREE ADVISORY SERVICE

brings helpful information promptly on your individual brake problems.

Master stocks in 38 NAPA warehouses. Jobbers everywhere give prompt service.



1 American Brakeblok "Regular" Brake Lining for manually operated braking systems.

2 American Brakeblok "1000 Series" Brake Lining for vacuum-booster braking systems.

3 American Brakeblok "2000 Series" and thick blocks for air brake equipment.

American Brakeblok

TRADE MARK REG. U.S. PAT. OFF.

BRAKE LINING



DIVISION OF AMERICAN Brake Shoe COMPANY



(CONTINUED FROM PAGE 132)
try has been seeking to identify and study these components and to learn how to separate them from each other and convert the inferior kinds into more useful forms. As this work succeeds improvement in motor gasoline on a sound economic basis will result. Development will be governed by the fundamental principle of extracting from each barrel of crude oil every possible car mile which can be secured on the basis of popular expectations.

Army's Surplus Used Trucks to Be Sold Only to Dealers

The Federal Property Utilization Branch of the Treasury Department's Procurement Division, through an operational letter directed to its 11 Regional Offices, has issued instructions and established procedure for the initial disposal of some 2200 used trucks which the Army recently reported as surplus for release to civilian use. Out of this first Army surplus declaration, only those vehicle models of 1939 or older will be released for sale to the public at this time, disposition of all 1940 and later model vehicles being held up until the needs of all Federal Agencies and tax-supported organizations have been ascertained and met.

These older used trucks (including truck chassis, truck tractors, off-the-highway motor vehicles, full trailers, semi-trailers, ambulances, hearses, bus chassis, station wagons, carryall suburbans, coupes fitted with pick-up boxes and cab pick-ups) are to be *offered for sale to certified used-car dealers only*, and will be sold "as is" and "where is." The term "dealer," under this procedure, has been defined to include any person engaged, in whole or in part, in the business of buying, selling, and repairing or reconditioning used motor vehicles and who maintains a place of business for the display, sale and repairing or reconditioning of such vehicle. Persons engaged in the business of purchasing motor vehicles for scrap or in order to salvage usable parts for resale, will not be considered "dealers" for this purpose.

Each vehicle is to be offered for sale as a separate item, governed by the current OPA ceiling prices applicable thereto. Any bids received in excess of such ceiling prices will be reduced to such ceiling; and the bidder will be required to certify that the vehicles purchased by him will not be resold in excess of the OPA warranty prices.

Invitations for bids are now being extended to as many dealers as possible from the Procurement Division's regional offices, and it is expected that the sales will be consummated shortly after all bids are received and submitted to the Central Office for approval.

The adoption of this method for disposing of the surplus Army motor equipment in question follows the broad recommendations contained in the recent Baruch report, which favored the redistribution of Government property and material through normal trade channels and under existing business practices wherever possible.



Suit Aims to Divest New York Central of Truck Interests

Attorney General Francis Biddle has announced the filing of a complaint in United States District Court at New York charging the New York Central Railroad Co., United States Freight Co., Balthasar H. Meyer, trustee, Linden Securities Corp., seven freight forwarding companies and 12 common carriers of freight by motor vehicle with restraining competition and monopolizing a part of the business of transporting freight in less than carload lots in the areas served by the New York Central Railroad System and the defendant common carriers, in violation of the Sherman Antitrust Act.

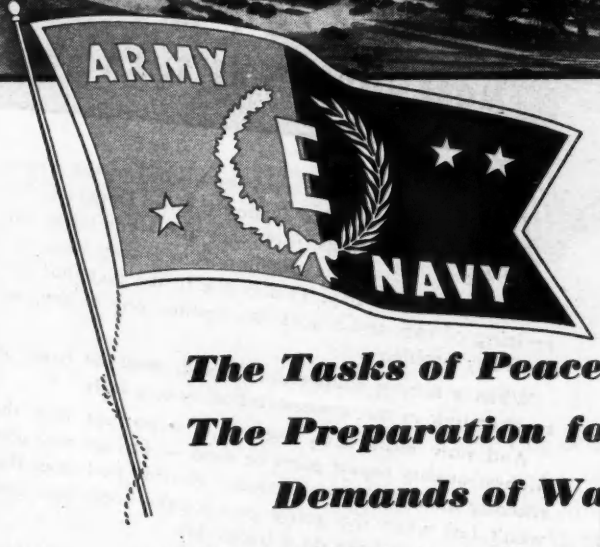
Named as defendants in the complaint are the following: The New York Central Railroad Co., of New York; United States Freight Co., a Delaware corporation, and Balthasar H. Meyer, trustee, of Washington, D. C.; Linden Securities Corp., a Delaware corporation; Universal Carloading & Distributing Co., Inc., of Delaware; Universal Carloading & Distributing Co. of Texas; Universal Carloading & Distributing Co. of Mississippi; Overland Package Freight Service, Inc., of Delaware; The Trans Continental Freight Co., of Illinois; Pioneer Carloading Co., of Delaware; Universal Transcontinental Corp., of New York; Interstate Motor Freight System, of Michigan; Universal Cartage Co., of Delaware; Detroit Trucking Co., Michigan; Lasham Cartage Co., Chicago, Ill.; Midwest Haulers, Inc., Toledo, Ohio; Mutual Trucking Co., Toledo, Ohio; Hancock Truck Lines, Inc., Evansville, Ind.; Commercial Freight Lines, Inc., Chicago, Ill.; Stibbs Transportation Lines, Inc., Syracuse, N. Y.; Roosevelt Cartage Co., Chicago, Ill.; Millerton Trucking Co., Inc., Yonkers, N. Y.; Modern Shipping Service, Inc., New York.

The complaint alleges that the New York Central Railroad Co. controls United States Freight Co. and through it the various defendant freight forwarders and motor carriers; that the railroad has caused such freight forwarders to use the facilities of the New York Central Railroad System and the defendant motor carriers, without attempting to seek lower charges or better service than are afforded by the New York Central System and its controlled motor carriers.

The complaint further alleges that the defendants, including the New York Central Railroad Co., through United States Freight Co., have conspired to obtain control and have obtained control for the New York Central of numerous companies engaged in the transportation of freight by motor vehicle, with the intent and effect of subordinating their functions to the interests of the New York Central, and of restraining competition in and monopolizing the trans-

(Turn to Page 138, Please)





The Tasks of Peace . . .

The Preparation for the Demands of War

Before the war, King-Seeley Corporation manufactured precision products in large volume for the automotive and allied industries —such items as gauges, speedometers, interval timers, governors and other comparable units.

The knowledge acquired in time of peace is now devoted to the production of war material for our Armed Forces. King-Seeley Corporation is, and has been, for the past two years, supplying a variety of ammunition components and other war items in ever increasing quantities; items of such nature and in such volume that present production schedules are possible only because of the skill and experience acquired in peace time.

That King-Seeley Corporation has succeeded in meeting and continuing to meet its war production demands in both quantity and quality is attested by the Army-Navy "E" pennant awarded in May, 1942, and which now carries three stars.

KING-SEELEY CORPORATION

ANN ARBOR MICHIGAN

SUIT TO DIVEST N.Y.C. OF TRUCK INTERESTS

(CONTINUED FROM PAGE 137)

portation of freight in the affected territory.

The complaint further alleges that the New York Central's acquisition of control of defendant freight forwarders and motor carriers, through the United States Freight Co., has eliminated competition between such freight forwarders and motor carriers, and that the motor carriers have unlawfully become a part of the New York Central System, to the detriment of shippers and contrary to public interest.

It is alleged that by the means stated competition has been eliminated and traffic diverted to the New York Central and its controlled motor carriers between numerous points in the areas served.

The complaint asks that the violations be enjoined; that the New York Central Railroad Co. be required to divest itself of all interest in, or control over, United States Freight Co., the various defendant freight forwarders, and motor carriers; that the United States Freight Co. be required to divest itself of all interest in, or control over, the defendant motor carriers; that the stock of United States Freight Co., controlled by the New York Central Railroad Co., but standing in the name of Linden Securities Corp. and held by Balthasar H. Meyer, trustee, be disposed of in the open market by competitive bidding to a purchaser not connected with the New York Central Railroad Co., United States Freight Co., or any of their affiliates or subsidiaries.

In connection with the filing of the civil suit, Assistant Attorney General Wendell Berge, in charge of the Antitrust Division, stated:

"This suit is aimed at monopolization of the business of transporting freight, especially in less than carload lots, in an important and extensive portion of the United States. The commercial life and material welfare of the Nation, as well as the national defense, are prejudiced by such restraints."

15 Wheel Stud Oversizes

Owners of trucks will be interested in the number and sizes of oversize wheel studs available from their jobbers, as shown on a Specification Chart prepared by Champ-Items, Inc., of St. Louis, Mo.

Dow Charges 'Smear'

Attacking the Department of Justice as the authors and spreaders of a smear campaign linking his company with a German cartel, Willard H. Dow, president of The Dow Chemical Co., told the Truman Committee in a special session called on magnesium that "the Department of Justice has at various times and in various places tried to force into the Dow war record certain charges growing out of peacetime operations. It pretends these charges are proven facts. By deduction, it claims both The Dow Chemical Co. and the nation were less able than they should have been to meet the magnesium needs of the war emergency. Every act complained of by the Department of Justice as against the public interest was actually *in* the public interest and, if anyone impeded the magnesium program—it was not Dow."



BRASS FITTINGS for tubing connections

Accurate machining and extra strength have made Imperial Fittings the standard of quality for repair and installation of gas, oil, grease, vacuum and brake lines. Imperial also has a complete range of shut-off cocks, needle valves and drain cocks.

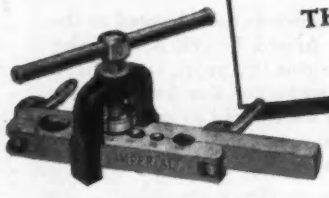
● Never in the history of the automotive business have Imperial fittings, fuel lines and tools taken on quite the importance they have today. This is due to the fact that the servicing of cars and trucks has become one of the nation's key problems.

When a tubing connection fails, it *must* be fixed or another link in our transportation system fails.

And now more than ever it is important that the highest quality repair parts be used — fittings that consistently make tight connections—flexible fuel lines that won't fail when the going gets tough—tools that save man hours and help do a better job.

On all of these counts Imperial service products measure up to the highest standards of today's needs.

THE IMPERIAL BRASS MFG. COMPANY
1209 W. Harrison St., Chicago 7, Illinois



TUBE WORKING TOOLS

Imperial has a complete line of tube working tools for cutting, flaring, and bending copper, aluminum, brass and thin-wall steel tubing. Illustration shows 193-F Flaring Tool widely used by service men to make S.A.E. flared connections.



FLEXIBLE TUBING AND FITTINGS
for fuel and oil lines

With the Imperial type FN fittings and flexible tubing in coils you can make up your own flexible fuel and oil lines to any length and with the required end connections. Easy to assemble.

IMPERIAL Dependable Products Since 1905

HERE'S WHY CAR·LIFE MOTOR OIL CLEANERS

DO A BETTER JOB AND LAST LONGER

Saves engine wear • saves oil • saves on service costs

Car•Life motor oil cleaners are giant-sized filters ...scientifically designed to do a better job of keeping oil clean . . . *over a much longer period of time.*

Hundreds of truck fleet operators have converted 100 percent to CAR•LIFE cleaners. The cross-section drawing below gives the reasons why.

OIL PURIFIER, INC. 3450 BROADWAY, OAKLAND 11, CALIFORNIA
SALES OFFICES: 735 EDDY STREET, SAN FRANCISCO, CALIFORNIA



MODEL 200

NO CHANNELING

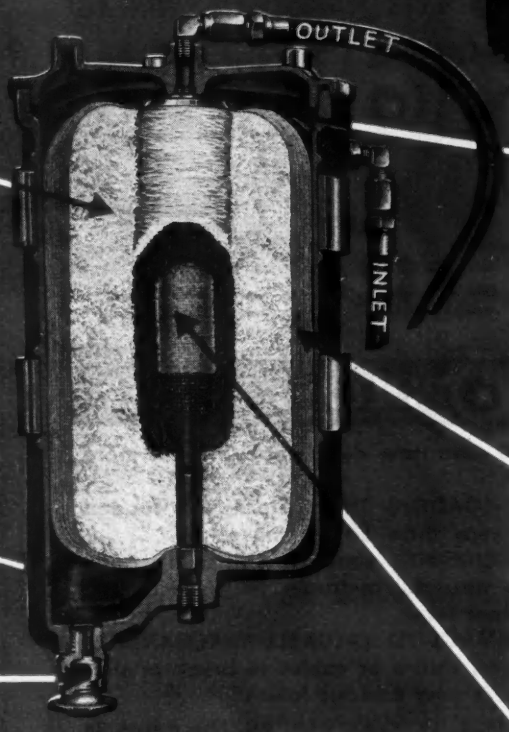
Very specially woven material through which the oil cannot wear channels as it can in the average waste pack.

LARGE DIRT TRAP

Large sump from which condensation and sludge can be removed. It is easier and cheaper to drain from here than from the crank case.

FLUSHING VALVE

Easily and quickly opened while motor runs—pressure flushes out abrasives and condensations.



MODEL 120

"OUTSIDE-IN" FILTER ACTION

Packs clog where oil enters them. Outer area of pack is about 12 times the inner area and so is effective 12 times as long.

MAXIMUM FILTER AREA

Car•Life sock-type packs give greatest possible area through which oil can enter—20 to 50 times area of a perforated can.

BREATHING ACTION

Special materials and construction expand and contract with oil pressure variations—prevent outlet vents from clogging.

CAR·LIFE MOTOR OIL CLEANERS
and replacement elements for all makes

Super-Trucks Increase Open Pit Mine Output

Huge 30 and 50-ton super-trucks, mostly diesels, speed up open pit operations in North America's vast metallic mines, according to H. E. Seanor, vice-president of Mack-International Motor Truck Corp. and expert on mine haulage and off-highway truck operation, who just returned from an extensive tour of metallic ore mines in Canada, Mexico and the United States, where operations around the clock are being carried on to provide the raw materials for war materiel. Giant diesel and electric shovels and these Mack super-trucks, both gasoline and diesel powered, go almost anywhere under their own power, working their way through open cuts, simultaneously building their own roads and uncovering large deposits of ore. Mine operations usually start within a few days after the trucks and shovels arrive at the mine site.

In the late '30's a few copper and coal mines made a partial switch to motor trucks. Even though these early trucks were converted highway vehicles and not too well suited to the severe requirements of mine operation, they convinced the operators that a new transportation medium for mine products was available. Lower mining costs were recorded; hitherto inaccessible mines put into quick operation, and production records broken with savings in labor.

Then Mack engineers designed and built 30 and 50-ton capacity specialized mine trucks. Many of these have been in operation now for more than 20,000 hr. and have hauled millions of tons of ore. During 1943 motor trucks hauled more than 300,000,000 tons of covering earth and ore from the mines. When the complete figures for the year are compiled, they are expected to show that better than 60 per cent of all the nickel ore produced in America has been hauled from open pit mines in these super-trucks. Coal production records are expected to set the total hauled by mine operation trucks at well over 400,000,000 tons of covering earth and coal.

Where large loading shovels are employed, a single 30-ton truck can transport 3000 tons of ore or coal in a three-shift 24-hr. day on short-haul operations. This is equal to 60 50-ton rail car loads. As a specific example, in one coal mine operation six 50-ton truck-trailers consistently transport 9000 tons of raw coal in a 11-hr. day, with the trucks operating on the coal vein over grades in excess of 10 per cent on a three-mile round trip. This is equal to one hundred eighty (180) 50-ton rail car loads.

There is a definite place for railroad haulage in mine operations, Mr. Seanor points out, especially on long mine hauls from refining plants to market areas or steamship docks. But in production areas where the digging is carried out and on short

(Turn to Page 142, Please)

ANTHONY HYDRAULIC

"TAILGATE LOADER"

CAPACITIES 750 LBS. TO 1500 LBS.

ONE MAN NOW DOES THE WORK OF THREE

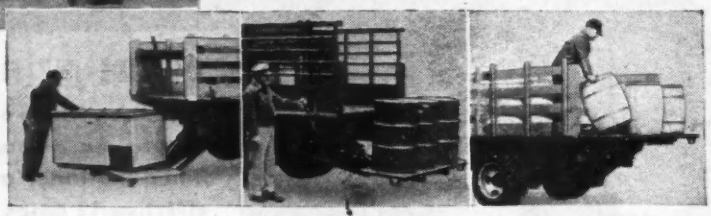
Old Way-Requires 3 Men



QUICKLY-EASILY MOUNTED ON TRUCKS NOW IN SERVICE OR ON NEW TRUCKS

★ SOLVES MANPOWER SHORTAGE

★ CAN PAY FOR ITSELF IN 30 DAYS



One man slides heavy cooler onto lowered tailgate. One man operates lever to raise 3 heavy drums. One man easily handles barrels raised flush with floor

NEW WAY with TAILGATE LOADER

★ SAVES MANPOWER! One man now does what three or more formerly did.

★ CUTS LOADING AND UNLOADING TIME! Trucks are loaded and unloaded faster — keeps them on the move.

★ REDUCES PERSONNEL ACCIDENTS! Loads are lifted to body or lowered to ground by powerful hydraulic hoist mechanism controlled by one convenient lever.

★ REDUCES ACCIDENTAL DAMAGE TO VALUABLE MERCHANDISE! No skids, chains or cables to break or slip. Minimizes your damage losses.



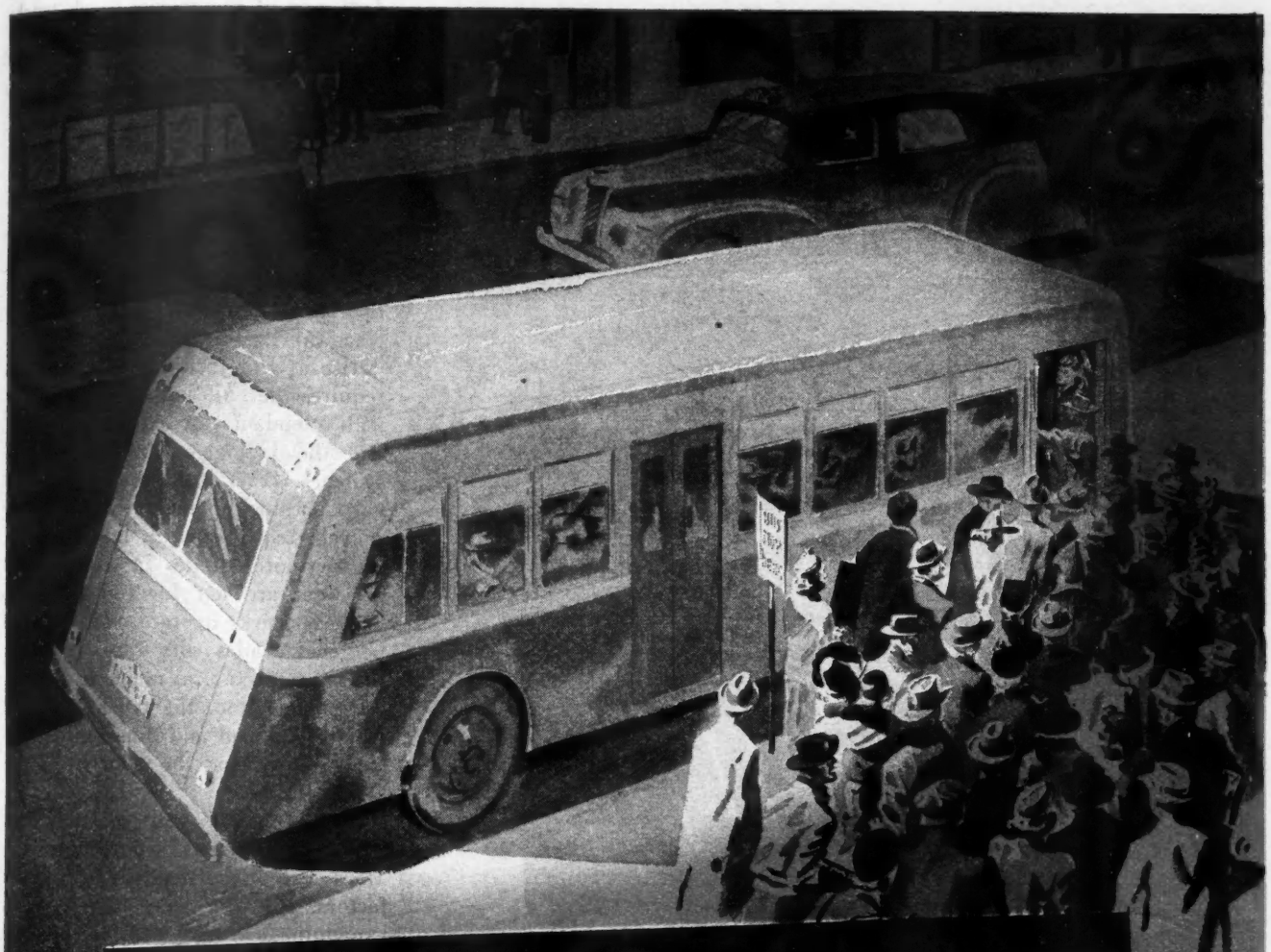
ANTHONY'S ZB PLATFORM HOIST — Makes inexpensive dump body out of platform, stake or grain body.

ARMY E NAVY

ANTHONY COMPANY, INC.

STREATOR, ILLINOIS

The low price will surprise you. Write or wire for complete information. — Address: Department D-22

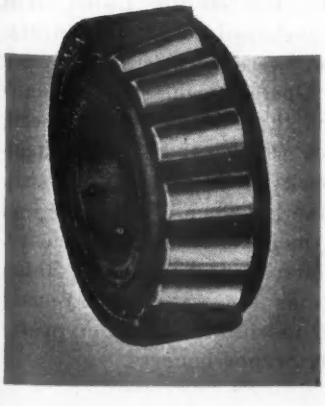


"LOADED TO THE GILLS"

And Bearings Carrying it all . . .

GASOLINE rationing and a long list of other reasons have even made standing room a premium in most cross-country and city busses. Twenty people above the "normal" bus load is one and one-half tons of *overload.* This, too, must be carried by bearings.

That's why it's more important than ever to replace a Timken Bearing with another genuine Timken Bearing - - one that will carry on through wartime service and still be going after victory until new equipment is available to replace your present units.

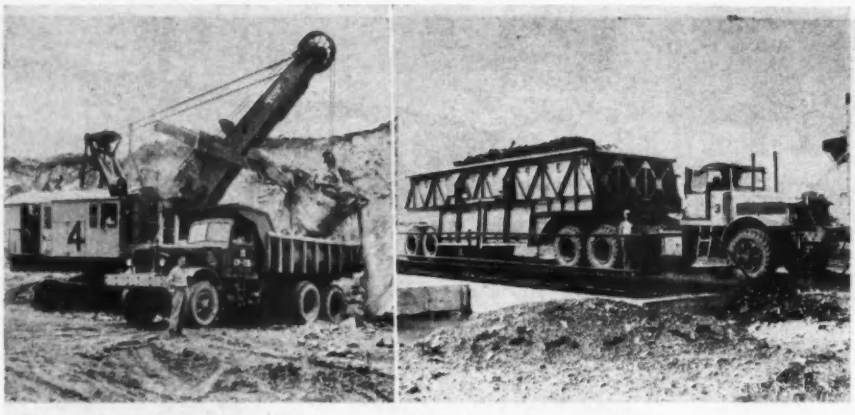


THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO
SERVICE-SALES DIVISION

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS



Left, one of the special Mack trucks used for open mining operations at the Columbia Iron Mining Co. pits at Cedar City, Utah. Right, the Tecumseh Coal Corp. of Southern Indiana takes a 50-ton payload of coal from its open pit mines every time this huge 40-ton Mack tractor trailer combination makes a round trip

(CONTINUED FROM PAGE 140)

hauls, trains cannot economically compete with trucks. On short haul operations trucks eventually will replace rail facilities.

Use of rail facilities in open cuts requires the building of right-of-way with attendant vast excavation work, and the laying of ties, rails and switches. Track extension in order to keep pace with the forward moving shovels requires large labor forces. Furthermore, grades in excess of 3 per cent are not favored by rails, whereas trucks operate over 8 to 10 per cent grades with ease, reducing road construction as much as 400 per cent. Then, too, the trucks are not rigidly confined and thus build their own roads over the shortest route out of the pits.

The economic limit a truck can haul mine products, according to the Mack executive, depends on many factors. However, some ores, such as vanadium, are hauled as far as 160 miles to processing plants by truck. Iron, copper, lead, bauxite, titanium and many other mine products are not generally hauled more than from two to four miles. In large open pit coal mines the hauls rarely exceed 4 miles.

One large mine operator declared that he had increased his shovel efficiency 24 per cent by converting from rail to truck operation. No time was lost as formerly in pulling out loaded trains and waiting for the spotting of empties at the shovel, he explained. When rails were removed from his mine, a number of 15-ton trucks were installed, and at a later date a 30-ton truck was added to the fleet. Finally, all the 15-ton units were transferred to another operation and were replaced by 30-ton trucks. Operating these larger units increased the cost only 20 per cent per truck while increasing the haulage capacity better than 75 per cent. Use of the larger units also gave him another increase in shovel efficiency.

The 30-ton truck and the 50-ton truck trailer are expected to remain standard indefinitely for mine operation, Mr. Seanor believes.



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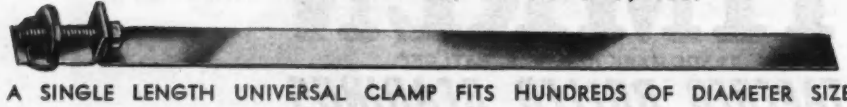
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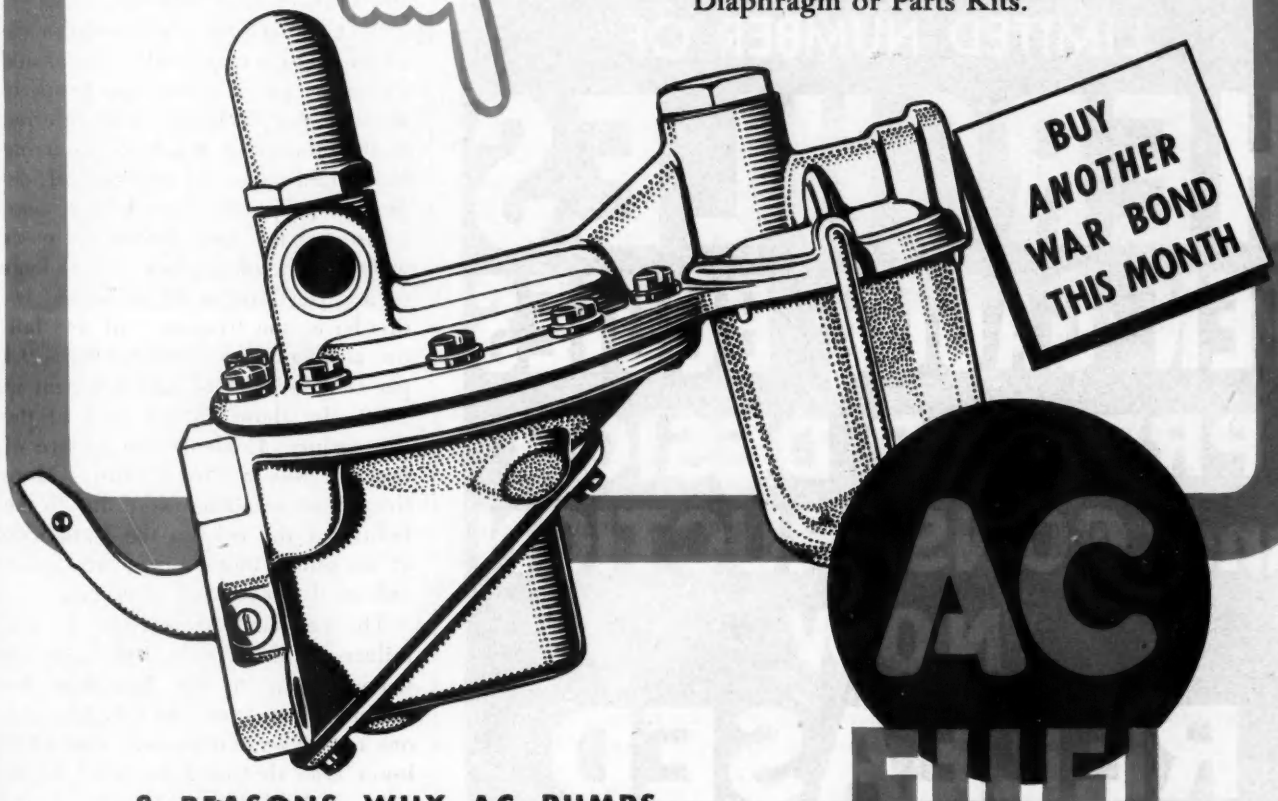
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- ★ 4-layer, patented-impregnation diaphragms of special airplane cloth.
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CCJ-4

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Brake Defects Lead Accident Causes

The Interstate Commerce Commission has determined, by an analysis of accidents reported during 1942, that 619 were caused by mechanical defects. Of these, 188 accidents involved brake faults or defects. There were about two and one-half times as many brake defect accidents as the next most frequently reported defects, which involved tires.

The frequency, severity and the nature of the mechanical failures were studied at length by staff members of ICC's Bureau of Motor Carriers, and the following conclusions and recommendations were reached:

1. Property damage per accident was found to be much higher in 1942 than in 1941. This same condition, however, is true for the generality of accidents and is probably due to the fact that carriers are hauling heavier loads and more valuable cargoes.

2. All of the accidents in which defects in or failures of brakes, steering systems, springs and associated parts, frames, driveshaft and universal joints involved vehicles which were moving at the time of the accident.

Accidents involving mechanical defects or failures of coupling devices, tires, wheels, exhaust systems, windshield wipers, and fuel control systems occurred most frequently while the vehicles were moving.

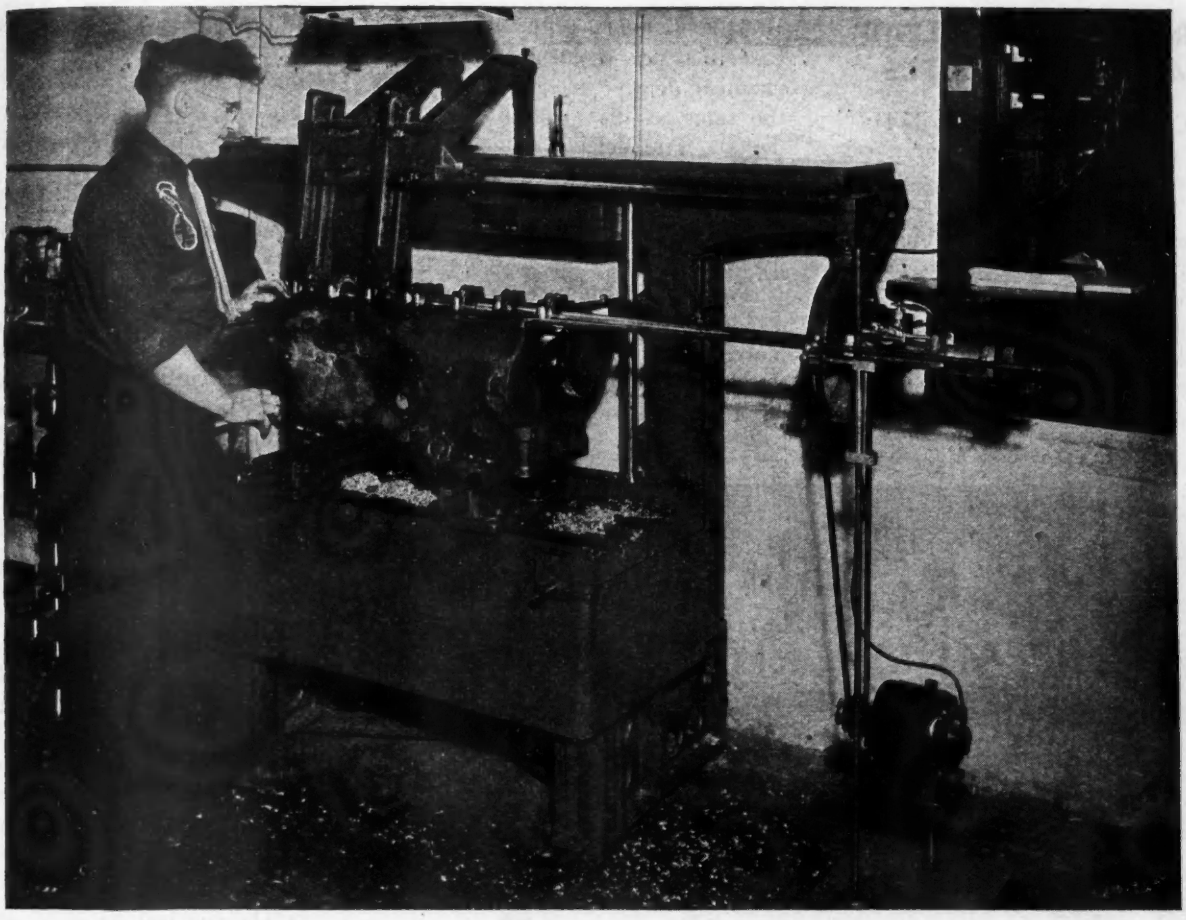
3. Comparisons have been made of the relative magnitudes of personal casualties per accident and property damage per accident, both referred to the number of accidents occurring in certain types of mechanical defects or failures, although such comparisons have been limited to cases where the total number of accidents of a given type is 30 or more. On this basis, the frequency of tire failure accidents has increased from 9.4 per cent in 1941 to 12.5 per cent in 1942. In about 73 per cent of the tire failure accidents the failure of the tire was a direct cause. More tire failure accidents were due to the failure of the tire on the front axle of the power unit than on any other axle of the vehicle or combination.

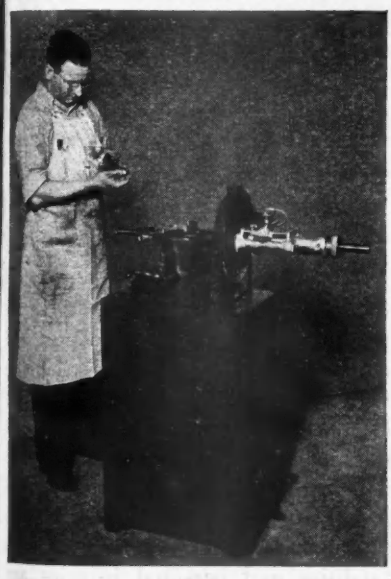
The per cent of increase in tire failure accidents over 1941 may be partially due to the fact that the quality of tires used in this year for one reason or another was somewhat lower than that used in 1941. However, in 1941 the frequency of tire failures still ranks second in occurrence of mechanical defect accidents.

4. The results found in this report for brake accidents are entirely compatible with those discovered and analyzed in the "Analysis of Mechanical Defect Accidents in 1941" and the "Effect of Brake Repair and Maintenance on Brake Performance of Commercial Vehicles and Combinations," which are reports of tests on trucks, tractor-semitrailers and other combinations issued August, 1942. Aside from indicating that the findings, conclusions, and recommendations contained in those reports

(Turn to Page 146, Please)

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for boring main and camshaft bearings. Handles everything up to and including RD 8 Caterpillar. Above shows line boring of seven main bearings of a Waukesha motor—a job easily and accurately performed by it. The design and construction of this machine assures perfect alignment and mirror finished bearings.

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BRAKE DEFECTS LEAD ACCIDENT CAUSES

(CONTINUED FROM PAGE 144)

are entirely corroborated by the facts herein set forth, there is no further reference to this subject.

5. Comparing all accidents involving mechanical defects with the generality of accidents, the data reveal that the former result in 49 per cent greater property damage per accident of this character (approximately $400 higher); while the personal casualties per accident in the "mechanical defect" category are about the same as the generality of accidents. "Tire defect" accident is the only category which is greater in fatalities, injuries, and property damage per accident than for the generality of accidents.

Considering only those types of accidents of which there were 15 or more in number of a given type, there were none other than the one already mentioned that resulted in fatalities per accident greater than in the generality of accidents; accidents involving defects or failures in steering systems and springs and associated parts are the only ones other than the one already discussed in which the number of injuries per accident was greater than in the generality of accidents; while, again excepting those types of accidents already discussed, all of the types except those involving steering and axles and differentials resulted in greater property damage per accident than corresponds to similar figures for the generality of accidents.

In each of the cases above cited, those types of accidents which occurred in less than 15 occasions were likely to be influenced by a single accident to too great an extent to make the figures comparably significant. Thus the "mechanical defects" which most affect the severity of accidents involving the mechanical defects may be separated and an idea had as to the effect of their cure upon accident occurrence, by types of casualties, whether personal or property.

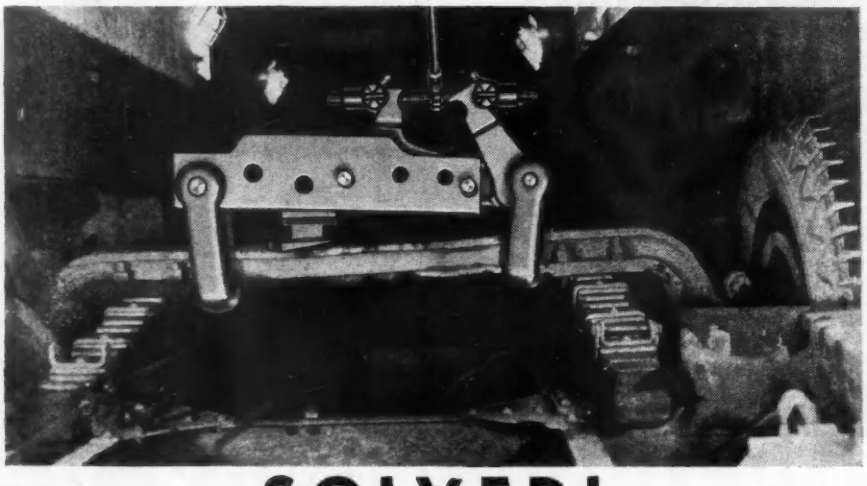
6. The conclusions above set forth indicate the relative significance of the various types of mechanical defects and/or failures upon accident experience and afford means of attack for the prevention of accidents in which they are involved.

Recommendations

1. The data corroborate the findings for 1941 and plainly indicate the need for better inspection and maintenance practices, particularly with regard to those mechanical or electrical parts which are involved in the accidents in which there were defective tires, brakes, and springs and associated parts, those defects productive of the greatest number of fatalities and personal injuries and the greatest amount of property damage. The importance of the recommendations made with respect to inspection and maintenance practices set forth in the August, 1942, brake report are accentuated by this report.

Carriers should pay more frequent and constant attention to minor adjustments and lubrication of the braking system and a periodic or mileage basis be established for inspection of the brake lining. The

(TURN TO PAGE 148, PLEASE)



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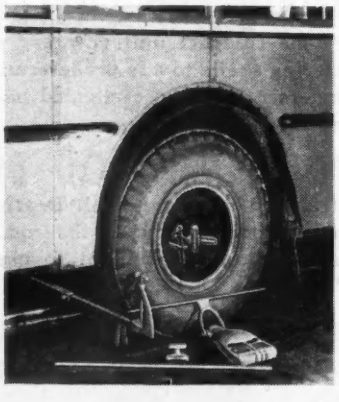
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BRAKE DEFECTS LEAD ACCIDENT CAUSES

(CONTINUED FROM PAGE 146)

proper care of these three items alone should materially improve the brake performance on commercial vehicles or combinations.

2. In these times it is quite often difficult to obtain service parts. In normal times proper periodical lubrication has been found to be economically advantageous to the carrier. This is doubly true in times where shortage of parts is quite common.

A number of serious accidents have been called to the attention of the Bureau of Motor Carriers that were due to the lack of lubrication. One of these was due to insufficient lubrication on a wheel bearing which so affected steering as to cause the death of three persons and the injury of seventeen others. The property damage to the carrier's vehicle was approximately $6000. This accident clearly showed the serious results that may be obtained due to the lack of a relatively small amount of grease. Carriers should pay more attention to the proper periodic lubrication of their vehicles.

3. Similar to 1941, it was found that many of the mechanical defects in 1942 which were the direct or indirect causes of the accidents analyzed in this report appeared to have been of such character that they were discoverable had suitable and adequate inspection been made of the vehicles prior to the commencement of the trips in which they were involved in the accidents. Consequently, it cannot be too strongly urged that inspections of this character be insisted upon and that adequate steps to effect a remedy be made before the vehicles depart from their terminals, in accordance with the requirements of Part 6, "Inspection and Maintenance" of the motor carrier safety regulations of the Commission.

4. This report shows that the failure of the spring or associated parts results in severe accidents. Slightly over 80 per cent of the spring failures occurred on the front axle of the power unit, and nearly three-fourths of all spring failures were due to failure of the main spring leaf.

It is possible with the heavier loads being carried today that rear power unit springs or trailer springs, which are fundamentally the load-carrying springs, may be failing more frequently than they have in the past, or they may be failing more frequently than the front spring of the power unit. These data seem to indicate that, if such is the case, failures of the rear springs of power units or trailers do not cause accidents as do failures of front springs of the power units.

As stated in the 1941 Mechanical Defect Report, some of these failures were due to corrosion pitting. The corrosion pits served as the initiating location for fatigue cracks which resulted in ultimate failure of a spring leaf. Some of the corrosion pitting was the result of highly alkaline reagents (salt, calcium, chlorid, etc.) as used to melt the ice in wintertime or to settle the dust in summertime. In other cases the spring was so constructed that pockets of

(TURN TO PAGE 150, PLEASE)

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Fine Motor Trucks Since 1910

BRAKE DEFECTS LEAD ACCIDENT CAUSES

(CONTINUED FROM PAGE 148)

water due to washing or road splashing collected on part of the spring assembly causing corrosion of the part.

It is recommended that the springs be periodically inspected carefully for corrosion pits or cracks. The spring leaves in which cracks are discovered should be replaced forthwith. Those leaves in which corrosion pits are discovered should be examined, if apparatus is available, by Magnaflux as this is practically the only known method of determining the presence of "stress raisers" which are the forerunners of fatigue cracks which, in turn, are the forerunners of fatigue failures. In order to prevent corrosion and consequent corrosion pits, springs should be covered with some sort of protective covering such as grease, spring covers, paint, etc.

Whenever a break or crack is discovered in any spring leaf of a spring assembly, the remainder of the leaves of the assembly should be suspected, and every leaf of the assembly should be carefully examined for the presence of cracks or breaks.

It has been suggested that, so far as the safety of operation of vehicles is concerned, safety may be enhanced by the employment in case of replacement of a so-called "military wrap" spring. The reason for this appears to be that, by the employment of such a wrap, forewarning is given in the event that the main leaf fails, thereby giving opportunity for replacement without untoward circumstances. In the use of this type of spring there appears also to be less probable chance of pocketing of moisture at the spring eye, with consequent less probability of rusting or corrosion at this eye than would be the case with springs in which an extra leaf has been added with the full wrap at the spring eye end.

5. Because of the existing rubber situation, every precaution should be taken to assure not only that tires be in safe condition but to conserve them by all available practical means. Attention should be paid to inflation pressures of tires en route to assure that vehicles are not running on underinflated or flat tires. Tires should not be run that are badly worn and need recapping.

The report indicates that failure of a tire on the front wheel of the power unit causes most of the tire failure accidents. More attention should be given to the front tire of the power unit.

Reference is made to the recommendations contained in notice of September 23, entitled "Tire Fires Are Increasing," sent to all carriers of record, wherein numerous preventive measures and precautions are set forth regarding the hazards attendant upon faulty maintenance of tires.

6. The importance of salvaging parts has been stressed by various government agencies and trade associations. In most instances salvaged parts can be used without increasing accident hazards, particularly as some of the heavier members of vehicle assemblies are not highly stressed parts. However, attention is

(TURN TO PAGE 152, PLEASE)



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Take a tip from Mr. Ready. Fleet operators from coast to coast are standardizing on Auto-Lite batteries for low cost operation. Today, more than ever, you need Auto-Lite's dependable, year 'round performance. See your supplier, or write to



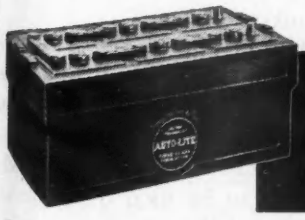
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Sheets of Fibre-Glass hold the "Activite" in the plates, where it delivers full power long after other batteries wear out.

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BRAKE DEFECTS LEAD ACCIDENT CAUSES

(CONTINUED FROM PAGE 150)

again directed to recommendations 2 and 7 in the 1941 Mechanical Defects Report regarding the treatment of highly stressed parts so as not unduly to weaken them regarding the entire lack of desirability of attempting to weld highly stressed parts, particularly as regards parts of steering mechanisms.

7. It should be pointed out that a very large fraction of the total losses of individual vehicles results from accidents involving fires, the original causes for which are mechanical defects. Obviously, whatever correction is made in inspection and maintenance practices tending to decrease the number of accidents directly or indirectly traceable to mechanical defects would have the effect of decreasing the number of fires and consequently the number of total losses resultant therefrom.



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★ Prevents Rings Sticking in Grooves.
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Carriers' Costs Absorb 96 Cents of Every Dollar

The financial condition of motor freight carriers improved to some extent in January but their expenses continued to absorb 96 cents out of every dollar of revenue, according to data compiled by the American Trucking Associations, Inc.

Based on reports from 211 Class I motor carriers of property in 41 states and the District of Columbia, the study showed January revenues increased 0.4 per cent over December, while expenses decreased 10.9 per cent. The decrease in expenses was not indicative of lowered operating costs, and merely reflected the unusually high expenses recorded in December because of year-end bookkeeping adjustments.

January revenues represented an increase of 6.7 per cent over January, 1943, while expenses increased 7 per cent.

The ratio of expenses to revenues was 96.0 in January. The same carriers had operating ratios of 108.2 in December and 95.8 in January, 1943.

Army Has New Type of Surgical Operating Truck

A new type of surgical operating truck, which enables several Army surgical teams at the front lines to work at the same time with the result that from 80 to 100 men can be operated on during a full 24 hr., has been announced by the War Department. Already numerous units have been manufactured and sent overseas. The idea for the new truck was that of Maj. Gen. Norman T. Kirk, United States Army, the Surgeon General.

The truck is six-wheeled and has a 2½ ton capacity. The teams work in tents attached like two rooms to the rear of the truck. The tent rooms are doubled-walled and lined in white duck to give light. Screened windows give added illumination. The inside of the truck, which is approached from the tent rooms by a short stair, is used for storage of supplies, instrument cabinets and scrub sinks.

In the old-type surgical mobile unit, still in use where it meets the need satisfactorily, only one team can work at a time. Operations are performed in the truck. A tent attachable to it can be used only for receiving and delivering patients.

Truckers Seek To Help Farmers In North Dakota Grain Crisis

ONLY an act of providence prevented a loss of over eight million bushels of wheat that North Dakota farmers had to pile on the ground this fall because their granaries and elevators were full. Instead of the 800 or 1000 freight cars per day required to service the North Dakota grain crop during the months of November and December, the average for November was 361 cars per day and 382 for December.

What cars have been available, naturally were used first to remove the grain from the ground. As this is written, all grain has been removed from the ground except a small amount in the Northwestern part of the State.

Granaries and elevators still remain blocked. Many barns which should, at this time of year, house cattle, also are crammed to capacity, so that cattle have to remain outside. The phenomenally mild weather has helped. No harm has been done to cattle, except a few which managed to reach the grain on the ground and, as cattle will, they ate until they foundered themselves and died.

The farmers want to get the grain out of their barns so as to have a place of refuge for their cattle. Furthermore, they wish to clear their bins so that they can prepare their seed grains for spring sowing. It has been pointed out that at the present rate of movement, because of the freight car shortage, the 1944 crop will arrive with the grain elevators still blocked and with no hope of another exceptionally mild winter such as this.

In the meantime, while the farmers are sorely beset for lack of transportation, two very disturbing bits of news have reached them: First, the government has been diverting 200 cars per day to haul Canadian grain, particularly wheat; second, motor truck lines that run through the state have, during all of this critical period, been running with empty bottoms because butter and other return loads that they normally haul east are now moving west to supply the Army on the Pacific Coast and for lend-lease supplies to Russia.

The first of these happenings sent Public Service Commissioner Ben C. Larkin and Special Assistant Attorney General Neal E. Williams scurrying to Washington to testify at a Senate Sub-Committee hearing on the grain car shortage. In addition to testifying at Senate hearings, Larkin and Williams represented Governor John Moses, of North Dakota, at the Governors' Conference on railroad rates in Washington on Jan. 16. According to Governor Moses, "Action to relieve the shortage of grain cars in North Dakota must come immediately as 700 North Dakota elevators were blocked on Jan. 12."

Truck Operators Offer Help

As far as the truck situation is concerned, operators, who are both willing and able to haul considerable tonnage of grain from North Dakota's elevators to milling points at Minneapolis, state that "The compli-

(TURN TO NEXT PAGE, PLEASE)

DOING A JOB ALL OVER THE WORLD

"Cleveland"
HOOKS
AND TOWING EYES:

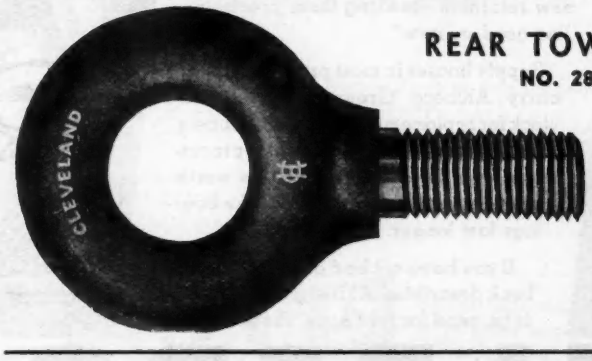
"Cleveland" Hooks cover a wide range of adaptability. Note list below. They are drop-forged from open-hearth steel, scientifically designed, expertly made, carefully inspected.



- BINDING
- GRAB
- SLIP
- TOWING
- END GATE CHAIN
- SNAP
- SPREADER CHAIN

No. 2800

FOR BIG JOBS
Drop Forged and Heat Treated—Ready to Apply



REAR TOWING EYES
NO. 2805 ILLUSTRATED

SEND FOR CATALOG 22B
which illustrates the complete line of "Cleveland" Irons.

The CLEVELAND HARDWARE & FORGING *Co.*
Est. 1881
3264 EAST 79th St. CLEVELAND, OHIO

TRUCKERS SEEK TO HELP NORTH DAKOTA FARMERS

(CONTINUED FROM PAGE 155)

cations of 'milling-in-transit' freight rates on wheat, railroad opposition to truck bulk hauling, and other technicalities, such as grain elevators being located on railroad property, stand in the way. We truck operators are ready and willing to help meet the emergency."

The "milling-in-transit" freight rate, which is cited as a stumbling block, works in this way. Wheat freight originates at a point such as Fargo, N. D. A car carries it via Northern Pacific Railroad to Minneapolis, where a big unloading device picks up the whole car plus the section of track on which it is standing, and empties the car into a hopper which feeds the mill storage bin. Flour, bran, or some other grain product produced by the mill is loaded in sacks on the car, and it is sent on its way, say to Chicago.

Freight is collected by the railroads involved in the movement on a "milling-in-transit" rate, each line receiving its portion of the through rate, in this instance the rate being 17 cents on the wheat from Fargo to Minneapolis and 13 cents on the milled products from Minneapolis to Chicago. Same will apply on the carload of grain moving to Minneapolis and then rebilled on to Chicago for final unloading.

For trucks to participate in this movement it would be necessary for the truckers to make agreements with the railroads whereby the trucks could be substituted at this elevator in Fargo to move the grain to Minneapolis when the railroad cannot furnish the cars. In this way the trucks would move the grain on a railroad billing, so as to protect the through "transit" rate, the trucks collecting their revenue from the railroads. Such a plan would naturally have to be handled by the trucks being allowed to participate, either under the railroads' tariffs or on a lease or substitute arrangement of some nature.

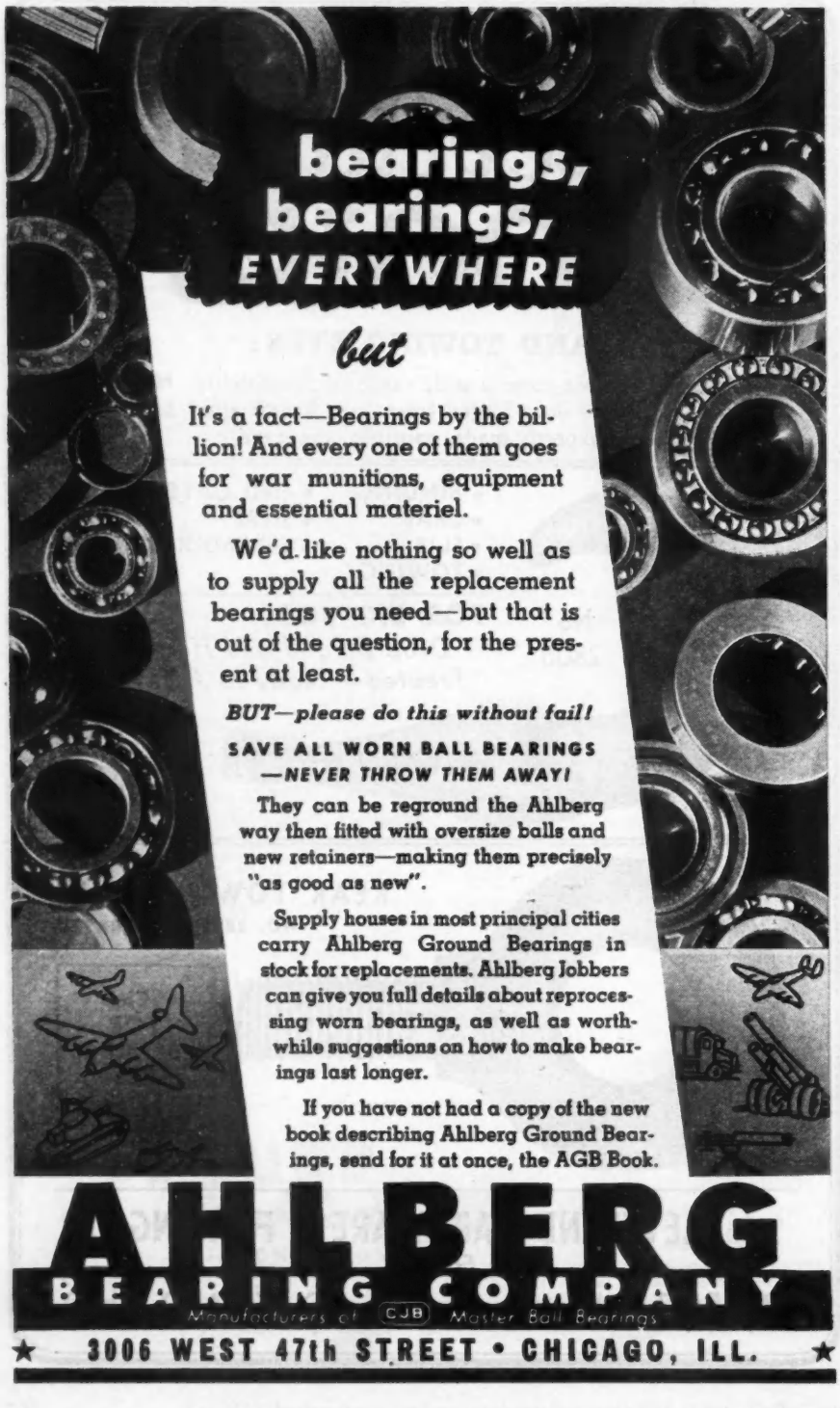
To meet this, it is suggested that truckers could handle a large part of North Dakota's flax crop, since this commodity could be hauled directly to the crushers to be turned into linseed oil. It does not have the complications of a transit rate such as that which handicaps the trucking of wheat. Furthermore, it is necessary to move the flax crop promptly as it cannot withstand moisture when piled on the ground as well as wheat can if properly placed in conical piles which shed water.

Daily, the Public Service Commission Office at Bismarck, N. D., is being deluged with hundreds of letters from farmers seeking transportation for their grain.

Competitive Points Get Most Cars

One of the great difficulties the farmers are having, and the situation that is causing a great portion of their complaints, is that the railroads spot fewer cars at non-competitive points. Having only a few cars at their disposal, they are taking better care of the points where they have competition. Where two competing railroad lines run through a town such as Minot, in which there are elevators, those towns are getting at least some service, whereas the non-

(TURN TO PAGE 158, PLEASE)



Heading the Parade of NEW ITEMS



Here is a new line of locks especially designed for installation on vertical or horizontal compartment doors of utility and tank bodies.

They are uniform in general design, yet vary in locking mechanism to meet all needs or individual ideas.

A distinguishing feature is the neatly designed recessed plate equipped with a folding handle which is held in the folded position by an interior spring. Flush design eliminates all projections and minimizes the space required.

Installation is unusually quick and easy. Simply cut a rectangular hole—(close to the door edge if desired)—mount the recessed plate—attach rods and rod guides. Attachment by screws, bolts or welding adapts them to wood or metal doors.

No. 4871—is a 3 point locking dead-bolt unit with simple but compact and rugged mechanism.

No. 4857—is similar to No. 4871 but locks top and bottom only.

No. 4872—is No. 4871 without rods for single point locking.

No. 4875—is the same as No. 4871 but equipped with key operated cylinder lock.

No. 4876—is similar to No. 4875 but locks top and bottom only.

No. 4880—is a 2 point dead-bolt unit with key operated cylinder lock, for vertical installation.

No. 4877—is a 2 point locking slam type unit with key operated cylinder lock.

No. 4856—is a 2 point dead-bolt lock with tumbler operated rods and anti-rattling rod guides.

No. 4878—"Slamtite", is a 2 point unit which slams to latch and pulls into tightly engaged position. Equipped with key operated cylinder lock.

No. 5603—is a slam type single point engaging lock.

FILL IN. CLIP AND MAIL COUPON FOR LITERATURE

CCJ

EBERHARD MANUFACTURING CO.

DIVISION OF

EASTERN MALLEABLE IRON CO.

CLEVELAND, OHIO

EBERHARD MANUFACTURING CO.
2734 Tennyson Road, Cleveland 4, Ohio

Please send us your literature describing your line of RECESSED LOCKS, to the name and address written below.

Name_____

Address_____

City_____

TRUCKERS SEEK TO HELP NORTH DAKOTA FARMERS

(CONTINUED FROM PAGE 156)

competitive towns with only one railroad are getting but little.

Consequently many farmers are driving their trucks with greater loads than ever, a distance of 65 to 75 miles to a competitive siding, whereas formerly they hauled only 25 to 30 miles to a non-competitive point. The result is a great deal of added wear on their tires and a much greater consumption of gasoline. Often they hear a car has arrived at a shipping point. They race for this shipping point with their grain only to find they are too late—the car has gone, the elevators are again full, and the trip, the gasoline, the time, tire wear and manpower have been wasted. Because of these longer and sometimes useless trips, the Office of Defense Transportation in Bismarck, N. D., reports continued requests for additional gasoline to meet the increased hauling mileage.

It has been estimated that the empty truck capacity available on eastbound runs by the for-hire carriers in North Dakota would be able to take care of some 500,000 bushels of grain per month. At this rate, a total of six million bushels per year could be hauled if the cooperation of the truckers were accepted by the rails and their closely affiliated milling interests.

While it is acknowledged that only a small percentage of the total grain crop could be handled by motor transport, it at least could be focused at critical points where the greatest congestion is now occurring and consequently, give relief to the farmers far beyond the measure of tonnage hauled. With the removal of normal eastbound traffic, the trucks are in an ideal position to render this aid and stand willing and ready to do so.

Just a Sweet

PUR·RR·R



. . . that's all you hear from a MARQUETTE when it tackles a tough job of automotive repair. But, if you could look under the operator's helmet you'd perhaps find him "grinning like a Chessie cat."

He'd have good reason, too, because there's no "magnet blow" to harass the operator. No confusing dials or gadgets to manipulate. Instantaneous heat selection and automatic voltage control assure perfect current for every job without questionable manual adjustment.

He's smiling, too, because he knows that electric welding makes strong permanent repairs on a host of today's hard-to-get truck and car parts at a fraction of the cost and time needed for dismantling and replacement.

COMPLETELY EQUIPPED
Nothing more to buy.



BUY THE BEST . . . BUY MARQUETTE
LOW INITIAL COST • LOW COST OPERATION
NEGLIGIBLE UPKEEP • FAST, FLAWLESS WELDS
ALL ASBESTOS INSULATION • 10 MODELS,
125 to 400 amps.

Send for free, 24 page, illustrated booklet.

MARQUETTE MFG. CO., INC.
Minneapolis 14, Minn.

MARQUETTE
a.c. arc welders

Automotive Wholesalers Start Promotion Campaign

The Motor and Equipment Wholesalers' Association is conducting a full-coverage trade magazine advertising program to tell about outstanding wartime services of automotive wholesalers and to emphasize the importance of the wholesaler-dealer system of distribution in the efficient wartime functioning of America's millions of motor vehicles and to the maintenance of our country's free enterprise system.

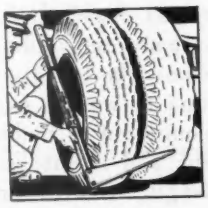
The program is being inaugurated in the April and May issues of practically all of the automotive trade papers. It is being financed out of general funds of the association and is projected over a three-year period.

"Seven League Boots" is used as a symbol in the advertising to dramatize the ever-ready and indispensable character of the wholesalers' services. The messages emphasize that automotive wholesalers can be depended upon to supply *performance-proven* products and services and they point up outstanding contributions that automotive wholesalers have made and are making to our Victory effort. They also accentuate the importance of the wholesaler-dealer system of distribution to the efficient wartime functioning of America's millions of motor vehicles and to the maintenance of our free enterprise system.

3 RECAPS, AND CARCASS STILL PERFECT

says Pearce-Young-Angel Co.





Have the Pennsylvania dealer check your duals regularly with the scientific, new Pennsylvania "Match-Your-Duals" Gauge—a Pennsylvania service to save you money.

For details write direct to Pennsylvania Rubber Co., Dept. CCJ-4, Jeannette, Penna.

PENNSYLVANIA TIRES

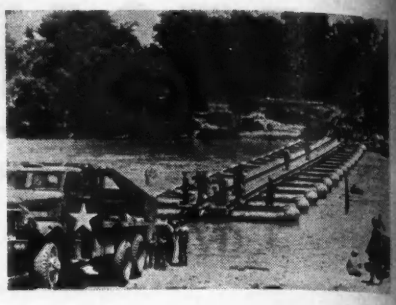
MANUFACTURED BY THE ORIGINATORS OF THE *Silent Vacuum Cup Tire*

Pennsylvania is one of several associated companies operating the Copolymer Corporation at Baton Rouge, La., the first plant to produce synthetic rubber for the United States Government.

514

Truck-Mounted, Bridge-Building Bodies Speed Army Crossings

Enemy troops who believe they can still cut off pursuit by blowing up bridges are in for a big surprise. Using newly acquired bridge erecting trucks, Army Combat Engineers can build pontoon bridges capable of carrying our heaviest mechanized equipment—and do it in a few hours! In recent maneuvers the 22nd Armored Engineer Battalion built a 330-ft. bridge of rubber and steel in 3 hr. and 2 min.



The Engineers work back from the opposite bank so as to keep the near bank clear for assembly of new sections as they are unloaded from the carriers by the Heil hydraulic cranes

This amazing achievement is accomplished with the help of an entirely different equipment carrier and erecting unit, bringing into use longer, sturdier pontoons, improved steel saddles and wider treadways. The special steel carrier body and its 8000-lb. capacity crane are specially built by The Heil Co., Milwaukee. Each big truck carries pontoons, steel saddles and four 2000-lb. treadways for 30 ft. of bridge. They are 31 ft. long, 9 ft. high, and weigh 26 tons loaded, but they're fast and easy to handle.

The Heil-built crane is 14 ft. long, hinged at its base, and hydraulically controlled. Swinging from its traveling position along the outsides of the body, it picks up the heavy steel treadways, two at a time, unloads and positions them for securing to pontoons.

When a fleet of bridge trucks arrives at a bridge site from a camouflaged dispersal point, things happen quickly and with split-second precision. The first truck backs into position at water's edge, a big pontoon comes out of its heavy canvas covering and is unrolled to its full 33-ft. length. Valves are opened and a mobile air compressor fills the bag. It takes a lot of wind to inflate the big, oblong doughnut, but truck-mounted compressors have the bulging pontoon ready to take to the water in 5 min. Bulk-headed air compartments keep them afloat even under strafing attacks.

The pontoon is floated, the carrier moves close to the water's edge, and the Heil hydraulic crane unloads steel saddles which fit snugly over the pontoon, give it rigidity and protect it from bullets or flying shrapnel. The saddle is secured by straps at 4-ft.

(Turn to Page 164, Please)

Kellogg-American

REG. U. S. PAT. OFF.

FRICTION LOSS is cut to a minimum in Kellogg-American compressors. Wrist pin bearings, for example, are roller, needle type, an exclusive Kellogg-American feature. This, a Kellogg-American *extra,* is one of the things that mean *most air per dollar* from Kellogg-American compressors.

Kellogg Division
AMERICAN BRAKE SHOE COMPANY
Rochester 9, N. Y.



AIR COMPRESSORS · PAINT SPRAY EQUIPMENT · CAR LIFTS · CAR WASHERS

Specially Engineered for TRUCKS and BUSES

Are YOU Still using a PASSENGER CAR Belt on your TRUCKS or BUSES?



You wouldn't *think* of using a passenger-car *tire* on your truck or bus—*would* you? Of course you wouldn't! No operator would! Then why use a passenger-car *belt?*

The moment you give it a thought, you realize that a truck belt has to do much heavier work than a passenger-car belt. Isn't it natural, then, that a belt made especially for truck service will give you much longer wear with *less operating time lost* for belt changes and take-up adjustments?

Look closely at the cross-section drawing of the Gates TRUCK Belt on the preceding page. Note there the special cord section, the 30% stronger cords, the stronger, tougher, multiple-ply cover on this belt. That shows you how much more strength and durability you get in the Gates TRUCK Belt than in any passenger-car belt ever built. And bear in mind in mind—this is the ONE belt that is specially engineered for trucks and buses. Until you get the Gates TRUCK Belt, you are more than likely using passenger-car belts on your trucks!

Now, read the letters from big operators reproduced on these pages. You will doubtless know some of these operators. They are practical, experienced, hard-headed men. They tell you that since they began using the Gates TRUCK Belt they have been getting 50% to 80% longer wear. What is even *more* important, they tell you how much valuable *operating time* they are *saving* through fewer road failures and fewer delays for servicing.

The actual experience of these operators and hundreds of others like them—and your own needs for conserving every possible moment of operating time during these overburdened war-days—will surely convince you that your wisest move is to call your jobber right now and tell him to send you a trial order of Gates TRUCK Belts.

GATES Jobbers NOW Have Stocks to Serve You!

Hundreds of **BIG OPERATORS** say

"50% to 80% Longer Wear"

CHICAGO, Ill.
"Gates "T" series of Black Belts are giving many more miles of service and we have never had to make a road service call due to belt failure."
Decatur Cartage Co.
A. A. Russ, Garage Supt.

"LESS TIME OUT For SERVICING"

GENEVA, N. Y.
"Gates T-series Black Truck Belt gives us many more miles of service with much less time out for servicing."
The Market Basket Corp.

"80% LONGER LIFE"

OMAHA, Nebr.
"The Gates Black "T" belt gives us 80% longer life than its pre-war brother. We vote this Black "T" belt the best ever made."
Watson Bros. Trans. Co.
C. M. Manson,
Shop Foreman

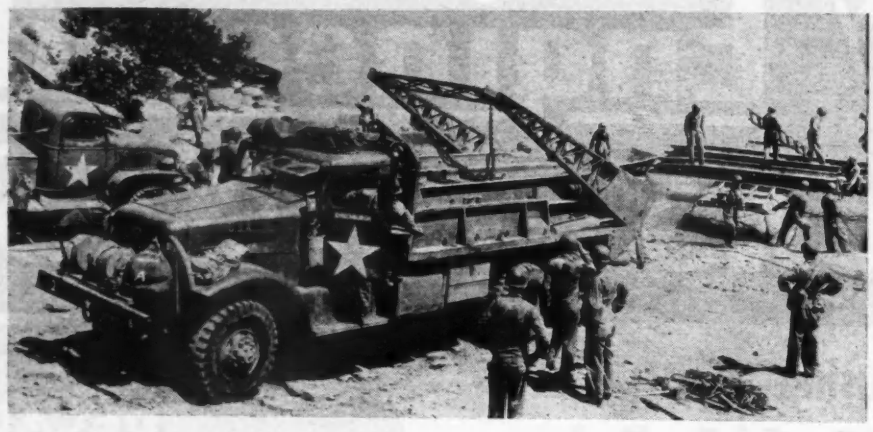
SPRINGFIELD, Mo.

"BEST EVER USED"

"For the past 16 months we have been using your Black "T" belt on all our units. It is the best truck belt we have ever used."
Mo.-Ark. Trailways
D. W. Steele,
Supt. of Maintenance

T443

GATES RUBBER Co.
DENVER, U. S. A.
World's Largest Makers of V-Belts



A U. S. Army Engineer's heavy carrier, with a Heil bridge building body and crane, backs into position for unloading its cargo at water's edge

BRIDGE-BUILDING BODIES SPEED ARMY CROSSINGS

(CONTINUED FROM PAGE 160)

intervals. Now the crane unloads the perforated steel treadways which are 15 ft. long and have high guard rails along the outside of their 2-ft. width. Two pontoons support a pair of treadways, making a 15-ft. bridge section. Completed pontoon bridge sections are then aligned and overlapping treadways are bolted together.

When three sections—45 ft. of bridge—have been joined, they are ferried across the stream with an assault boat and fastened on the opposite shore. An amphibious jeep and a bulldozer usually go along on the first trip so they can clear an old road or begin work on a new one.

Working back from the opposite shore, Engineers keep on assembling pontoon sections and ferrying them across to join the original section. This leaves the near bank clear for the assembly of sections as successive carriers pull into position and the cranes set them up.

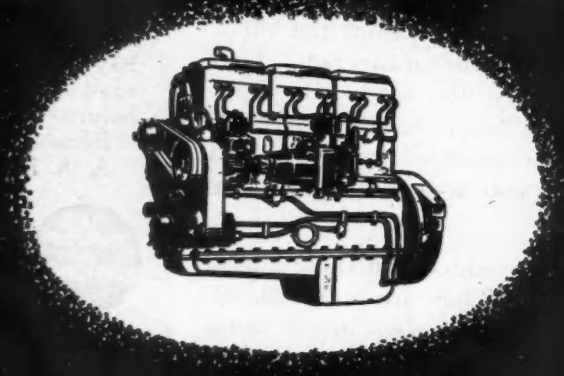
Finishing touches include setting out heavy anchors about 50 yd. upstream to brace the bridge against the river current. About a dozen anchors do the job and the bridge is ready for business. There's plenty of it, too! Heavy tanks, half tracs, jeeps, cargo carriers rumble safely across. Upstream, assault boats look for floating mines. Overhead, fighter planes protect the convoy and the span.

Russia Got 170,000 Trucks

Under lend-lease from the United States to the Soviet Union we had sent up to Jan. 1, 1944, over 4700 tanks and tank destroyers and over 170,000 trucks, 33,000 jeeps and nearly 25,000 other military motor vehicles. Twice as many trucks were sent in 1943 as in 1942 to help meet the advancing Red Army's transport and supply needs.

INDIUM

...provides greater wear-resistance and corrosion-resistance for engine bearings . . . . . .



What is bearing metal? Usually an alloy of non-ferrous metals, but even the best is extremely vulnerable to (1) oil-corrosion and (2) wear.

INDIUM is the answer to bearing troubles. Its application by the bearing manufacturer is simple; its cost low. The resulting diffused surface is much harder than the original bearing surface and much more resistant to corrosion. The surface has excellent lubricating properties.

Write for full particulars about treating engine bearings with INDIUM to protect them against corrosion and wear. Our technical staff will be glad to discuss the matter.

THE INDIUM CORPORATION OF AMERICA

UTICA, N. Y.

New York Office: 60 East 42nd Street, New York 17, N. Y.

6-10-4

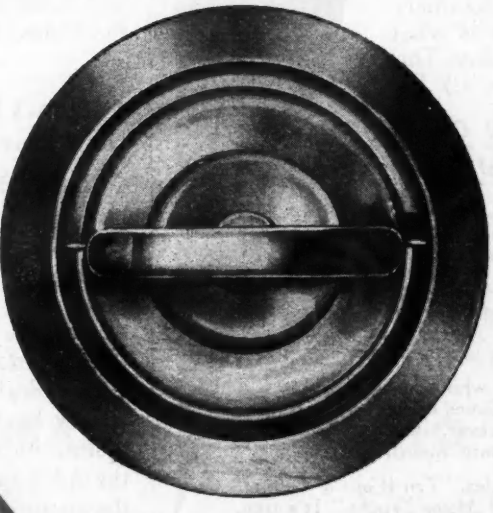


Map Making FRUEHAUF TRAILERS *Hansen Equipped to Save Space— Add Convenience and Safety*

NOTED for their sturdiness, utility, large capacity, on-the-job performance, design and adaptability, FRUEHAUF TRAILERS are in wide demand and use in various phases of war effort, where low-cost, dependable transportation is required and demanded. The name FRUEHAUF is in itself assurance of dependability and lasting service, so workmanlike and thru-and-thru is its quality of materials, accessories, fittings and craftsmanship.

FLUSH HANDLE
No. 79-L

Fits flush with door. Dimensions, 6 3/16" wide. Recess, 4½" wide, ½" deep. Shank, 3⅛" long, 5/16" dia. Flange, ¾". Steel construction. Weight, 1 lb., 2 ozs. Curved handle conforms to inside of cup. No projections to catch clothing or other objects. Other types and sizes of Hansen Flush Handles available.



Modern War-Time Map-Making Units

One example of FRUEHAUF war-time equipment is the Map-Making Trailer illustrated—combining all the facilities required for field service where maps must be expertly and quickly made—with work and trailer continually on the go under the most exacting and trying conditions. Every inch of space is used—not even a door handle projecting—so trim, compact and streamlined is the unit.

Equipped With a Handle That Has Made History

No handle has achieved the distinction and widespread use as has the HANSEN FLUSH HANDLE used on this Map-Making Trailer. Handle pulls out for use—folds in when not in use. It fits flush with the surface of doors and body, with no projections to take up valuable load-width and space, and with no dangerous projections to catch clothing or obstruct free passage of trailer body in close quarters. It has made history on all types of trailer, truck and tank units. It is used on side and rear doors of unit shown. Its use means neater appearance, more payload, lower delivery costs.

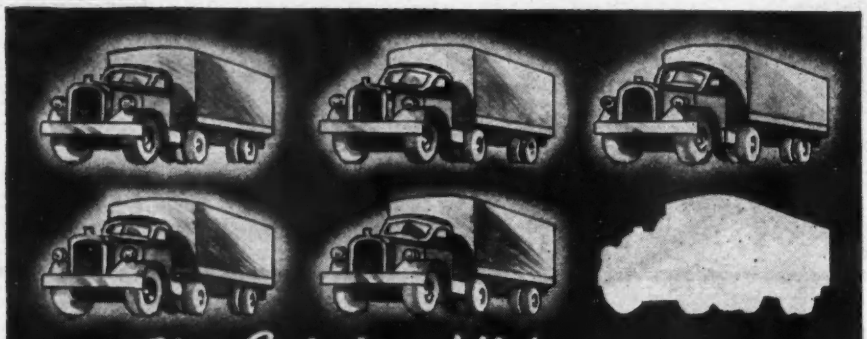
WRITE FOR CATALOG (If you don't already have one) showing the complete line of Hansen Locks, Hinges and Handles, Window Regulators, etc.; also, one-hand Tacking Machines.

HANSEN
HARDWARE *for* Commercial Bodies

A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE., CHICAGO, ILL.

WAR PRODUCTION BOARD

WPB NEWS



The Spirit of '44 . . .

"MAKING 5 TRUCKS DO THE WORK OF 6"

You Must Get More Work Out of the Trucks You Still Have

In both the fields of private fleets and of commercial carriers or transport haulage, there is what amounts to a "near famine" in trucks today. They are just that scarce (how well you know it!). But,

One Pound of SERVIS RECORDER Can and Often Does Save Half a Ton of Truck!

MAKE FIVE TRUCKS DO THE WORK OF SIX! This often happens—many fleet owners and contract haulers are now doing it; maybe it's easier to understand this way:

Five Servis Recorders save one whole truck. Divide the weight of the truck saved by the weight of five Servis Recorders and you get the astonishing answer given in the headline above.

It happens!—to those who take the trouble to make it happen. Saves money of course; but far more important, it *saves metal*—saves it in important quantities.



Send for our booklet, *"Ten Ways of Getting More Work Out of Motor Trucks."* It's free. THE SERVICE RECORDER COMPANY, 1375 Euclid Avenue, Cleveland 15, Ohio.

The Servis Recorder

Been Keeping Trucks Busy for 32 Years

52,700,000 Gal. Anti-Freeze Allocated for Next Winter

The War Production Board announced that it had informed its Anti-Freeze Industry Advisory Committee that the allocation for anti-freezes next winter would be 52,700,000 gal.

The committee agreed with a WPB proposal that two per cent of this year's production be kept uncommitted as a reserve pool until after Jan. 1. This will make supplies available to WPB officials for use in relieving emergency situations under the powers created by a recent amendment to the anti-freeze limitation order.

Anti-freeze distribution controls which will give its Chemicals Bureau power to direct the flow of alcohol anti-freezes into various sections of the country have been established by the W.P.B.

Under an amendment to the anti-freeze limitation order No. L-51, the WPB is given the power to issue special directives concerning the distribution or delivery of anti-freezes produced under WPB quotas.

"In issuing these directives it will be the policy of the WPB to obtain an equitable distribution of the available supply," an official said. "They will be based on vehicle registrations and weather conditions throughout the United States."

Use AA-3 Priority Rating for Motor Replacements

Automotive repair shops may use the AA-3 preference rating assigned them by Controlled Materials Plan Regulation 9-A to obtain fractional horsepower motors from dealers, wholesalers or motors agencies, the War Production Board announced.

Any dealer, wholesaler, or motor agency having fractional horsepower motors for sale is required to honor the AA-3 rating from repair shops if the motors in stock are not needed to fill orders bearing better preference ratings.

Any seller who fails or refuses to accept an order bearing a preference rating may be required, upon written request of the person placing the order, to give his reasons in writing for such failure or refusal.



● The way I buy truck tires is no secret –I'll tell you my story.

Like you, I first learned the economy of correct tire application and care. But then, I still wasn't sure of whose tires I should buy.

Finally, the idea struck me—to make a deal to buy all my tires from the wholesaler who, all along, had served me satisfactorily on my shop tools, accessories and other truck needs.

This wholesaler knew quality—I was certain of that--and he was already distributing a line of tires, made by Mansfield, to many dealers and to other large fleet operators right in my territory. His sales overhead was low, because it was spread over a large and well diversified wholesale business. He was able to take care of my truck tire needs at as low a cost as I could enjoy from any other method of tire distribution.

Now I've found out from experience that my reasoning was right—and I'm sure that my way of buying truck tires can save you money too.

COMPANY, MANSFIELD, OHIO

Following Well Known Tires—

RICHLAND UNITED

WHOLESALERS EXCLUSIVELY

OFFICE OF PRICE ADMINISTRATION

OPA NEWS



The way to win is to concentrate. And America's leading mechanics know that the way to win in their business has been to concentrate on *one* . . . the complete quality P & D line . . . and get *all* the advantages.

The experience of thousands of truck and bus operators, and service station or garage owners proves that P & D . . . the complete quality line of ignition replacement parts for trucks, buses and passenger cars . . . means profitable operation. With P & D products the *three* benefits of concentration are always there.

3 P&D BENEFITS

1. Minimum inventory, because one complete line.
2. The best is always at hand, because P & D make only one quality ... the finest.
3. Customer satisfaction because good work plus P&D parts means peak performance.

YOU CANNOT PURCHASE ANY FINER QUALITY

3575

P & D MANUFACTURING COMPANY, Inc.

LONG ISLAND CITY, NEW YORK

STARTING · LIGHTING · IGNITION REPLACEMENT PARTS

P & D MANUFACTURES ONE COMPLETE QUALITY LINE. ONLY THE FINEST MATERIALS AND WORKMANSHIP OBTAINABLE ARE EMPLOYED

Fleets May Sell Trucks at Dealer Warranty Price

A fleet owner may sell a used commercial vehicle for the dealer warranty price under Revised Maximum Price Regulation 341—Used Commercial Vehicles.

For the purpose of this Regulation, according to OPA, a fleet owner may be a dealer if he is buying and selling used vehicles, has a place such as a garage, for the display of vehicles for sale, and has facilities for the repair and reconditioning of vehicles. In cases where the seller qualifies as a dealer and sells for the warranty price, he must supply the purchaser at the time of sale with the warranty as prescribed in Section 8 of the Regulation.

Where facilities for repairing and reconditioning vehicles are not maintained, OPA Regional and District Offices have been authorized to act on applications of such sellers if they have a working arrangement with a firm having facilities for repairing and reconditioning.

If a fleet owner is in doubt as to whether he qualifies as a dealer, it is suggested he contact the nearest OPA Regional or District Office.

Quotas Removed on 1942 Used Cars to Speed Flow

Faced with a dwindling supply of new cars, the OPA has revised its automobile rationing program to facilitate the flow of used 1942 cars to persons who meet rationing eligibility requirements.

Any eligible person who has found a used 1942 car for sale will be able to get a ration certificate from his local War Price and Rationing Board to buy it, OPA said. To accomplish this, OPA removed all monthly quota limitations on used 1942 cars. These quotas previously were set on a geographical basis.

At the same time OPA announced that ration certificates to buy *new* 1942 cars will henceforth be issued by district offices instead of local boards. Boards, however, will continue to accept applications.

Fruehauf Trailer Branch Moves To New Quarters

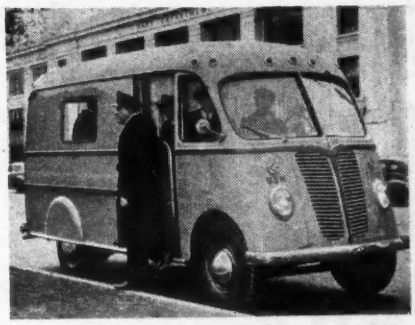
The Cincinnati factory branch of the Fruehauf Trailer Co. has moved to new and larger quarters at 3126 Spring Grove Avenue.

Frozen Door-to-Door Jobs Made Into Buses

In all of the 15 naval districts of the United States, the activities of the Navy Department are necessarily scattered and it is necessary to move personnel and equipment from one building to another, sometimes miles apart, for instance, printing supplies, heavy cameras, files, mail sacks, duffle bags, etc. Regular buses, station wagons, passenger cars could not meet all of the requirements satisfactorily and at low cost.

An alert truck salesman suggested the use of man-high, double capacity Metro bodies on a 113-in. wheelbase 1-ton International chassis that had been designed and built for delivering the light, bulky loads of bakers, laundries, dry cleaners, department stores, etc., but frozen by the Government before they could be delivered.

As a result of this suggestion, nearly 400 of these units have been converted to the Navy Department's requirements—fitted with side windows, longitudinal side seats (that fold up against the sides when not in



use), collapsible center seats that can be removed when the unit is used as a truck, and a cushion over the housing in the right front of the driving compartment. The unit seats 18, and standees increase this to 25 passengers on occasion.

Besides being man high, the bodies are 6 ft. wide and have a space 9½ ft. long behind the driver's seat, all on a 13-in. wheelbase, due to the fact that in building the chassis for this type of body, the truck makers moved the driving controls forward to get the wanted extra loadspace for the light bulky loads. They have a turning radius of only 21½ ft. and are easily handled as is evidenced by the fact that some of them are now operated by women chauffeurs.

These utility units are doing 10.9 miles to the gallon of gasoline which figures out to a very low gasoline cost per passenger mile. It is also far more economical than light passenger cars which averaged 14.6 miles to the gallon but carried only two to four passengers. Heavy passenger cars in similar service for the department averaged between 10 and 11 miles to the gallon of gasoline and also carried only four passengers.

Is not beyond the realm of possibility the idea of a junior bus that also can be used as a truck or utility wagon will find a place in post-war transportation. Small schools, country clubs, summer resort hotels, big industrial plants and perhaps even the postoffice may find the idea to their liking and truck and bus builders may produce models that will serve a real economic need.

Keihn Heads Auto-Railer

Evans Products Co., Detroit, announces the appointment of Ferdinand A. Keihn as manager of the Evans Auto-Railer Division, succeeding Charles Gross, resigned.



As evidenced by the Army-Navy "E" Pennant and Stars, PERFECTION has carried its reputation for "a job well-done" right over onto the war-road. Right now, we can furnish truck bodies and hoists only for those purposes which have a direct bearing on the war effort.

You can make a valuable contribution to the war effort by emphasizing to your employees the necessity for *careful driving habits*, and by giving extra good care and maintenance to your present equipment.

We will again be back on peacetime roads one of these days—with better hoists, stake bodies, dump bodies, and express bodies than ever before. Watch our ads for future announcements.

THE PERFECTION STEEL BODY CO., Galion, Ohio

PERFECTION

TRUCK BODIES AND HOISTS

OFFICE OF DEFENSE TRANSPORTATION

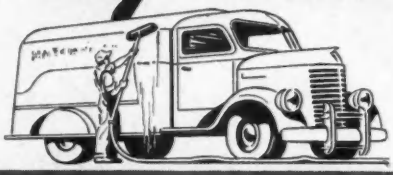
ODT NEWS

Complete Text of JIO Order No. 10 on Page 180

SPEED WASH
FOUNTAIN BRUSH



Cuts Washing Time in Half



Washing trucks and trailers with Speed Wash gets amazing results with little effort and great speed. Clean, fresh water feeds right through the handle and tufts, so that each 12 inch stroke does a complete job of soaking, scrubbing and rinsing. There's no waste motion changing tools and back-tracking over the same surface. You can see how this easily cuts washing work and time in half, does a better job, and also saves the finish.

FULLY GUARANTEED

Put Speed Wash to work on your trucks. If it doesn't measure up to your expectations, return it for a full refund of your money. Order on this liberal basis today. Extend your priority of AA-5 or better, to insure prompt shipment. Make out your check or money order to Milwaukee Dustless Brush Co.

9.45 post paid if check accompanies order.



"Dustless"—"Speed Sweep"—"Speed Wash"—brushes

Milwaukee Dustless
BRUSH COMPANY

526 NORTH 22nd STREET, MILWAUKEE 3, WISCONSIN

Spare Unit Assemblies Available To Fleets on One for 25 Basis

A truck rehabilitation program, involving the use of unit assemblies to reduce out-of-service time, has been announced by the ODT. As part of the program the WPB has written into its 1944 production schedules more than 18,000 transmissions and over 7000 rear axle assemblies as an initial inventory, and has given assurance that approximately 138,000 engines required to implement the project will be added.

Fleet owners with 25 or more vehicles, who maintain their own trucks or buses and are equipped to overhaul large units, may purchase one spare unit for every 25 vehicles.

Truck manufacturers already have a working knowledge of the procedure, since it is similar in many respects to their practice of exchanging smaller units, such as carburetors, fuel pumps, ignition distributors and generators.

Since engines, transmissions and rear axles cannot be rebuilt by the smaller neighborhood garages and shops because of the lack of facilities and prohibitive expense, the larger units will be obtained from original unit manufacturers, specialized rebuilders and dealer garages, the ODT explained. The merchandising details and the location of the rebuilding shops will be dependent upon trade arrangements and distribution plans of the participating concerns.

Any truck operator will be able to obtain a rebuilt engine, transmission or rear axle in exchange for a similar unit from his vehicle if the exchange is necessary to maintain essential transportation.

Whenever individual replacement parts will serve the need they must, of course, be used instead of the larger component units.

W. J. Cumming, chief of the ODT's Vehicle Maintenance Section, outlined the program in a series of meetings of regional ODT officials and industry representatives beginning March 13.

Flower Deliveries Eased

The ODT has relaxed restrictions on the retail delivery of cut flowers to allow three deliveries weekly to a hospital instead of two. At the same time, the package size and

(Turn to Page 176, Please)

Need Help?

HERE ARE SOME OF THE PRECISION JOBS THAT T. P. JOBBERS' MACHINE SHOPS CAN DO FOR YOU—



Cylinder boring or grind ★ Piston grinding and fitting ★ Piston pin fitting ★ Installing cylinder sleeves ★ All valve operations ★ Installing valve seat rings ★ Line-boring main bearings ★ Installing slip-in and bronze-backed bearings ★ Brake-drum truing service ★ Installing brake lining ★ Brake shoe exchange and renewal service ★ Brake cylinders honed and serviced ★ Clutch rebuilding service ★ Installing differential gears ★ Installing fly-wheel gears ★ Installing king bolts and bushings ★ Water pump service.

Many shops also are equipped for Crankshaft Grinding, Cylinder Head Grinding and complete Engine Rebuilding.

IT'S a serious problem, this job of keeping aging cars, trucks, and buses in service with almost 50% of the country's experienced repairmen out of the home front picture.

Fortunately, we have thus far been able to keep our T. P. Jobbers supplied with Thompson Engine and Chassis Replacement Parts in volume equal to many prewar years. Even at that with all our work for Uncle Sam we can't produce all the replacement parts that are needed today.

Fortunately too, there are T. P. Jobbers in every part of the country who are doing a fine job in maintaining machine shop services that are helping many repair shops and truck operators out of tight spots.

Your T. P. Jobber has experience, facilities and information that can help you in many ways during this emergency.

SEE YOUR THOMPSON PRODUCTS JOBBER

Helping You Keep America's Cars Rolling. Beating Production Schedules on Vital Parts for Military Engines—Aircraft and Automotive.

Thompson Products, Inc.

CLEVELAND • DETROIT • LOS ANGELES

(CONTINUED FROM PAGE 174)

weight requirements were tightened to correspond to those applicable to other commodities.

Florists wishing to increase the number of deliveries must file a schedule with the ODT district office designating the days of the week on which deliveries are to be made.

These changes are set forth in General Permit ODT 17-25A.

ODT Asks Reports to Help Carriers Get Tires

The Highway Transport Division Office of Defense Transportation, has established a reporting system to assist truck and bus operators with their tire-procurement problems.

Under this system, bus and truck operators who are eligible for tires, but are unable to obtain tire certificates from their local War Price and Rationing Boards because of exhausted quotas or other reasons, will report that fact to the ODT.

These reports will enable the ODT to determine the extent of regional tire deficits by classes of highway carriers and by tire-size groups, and will form the basis for taking such remedial action as is deemed necessary and feasible.

The ODT said that the portion of bus and truck tire production alloted to the ODT by the Office of the Rubber Director for the first quarter of 1944 fails by substantial percentages to meet the requirements in various tire-size groups as estimated by the ODT, which is the claimant agency before the Office of the Rubber Director for tires required by the domestic civilian transportation services and facilities. These deficits are reflected in the currently reduced truck and bus tire quotas which the Office of the Rubber Director has allotted to the Office of Price Administration for rationing.

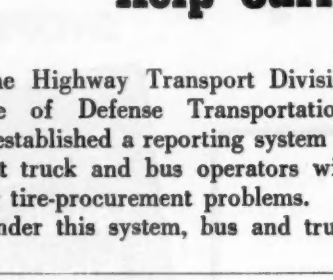
It is against these reduced quotas, the ODT explained, that certificates to acquire tires may be issued to commercial vehicle operators by the OPA's local War Price and Rationing Boards.

"Because of this situation," ODT said, "there are many instances where eligible commercial motor vehicle operators are being denied tire certificates by OPA boards because of exhausted quotas or other related reasons. We can reasonably expect that until there is substantial improvement in the number of truck and bus tires to be allocated for civilian highway use, the number of these denials will increase."

In order to provide for the maintenance of commercial highway transportation at a level required by the war effort and essential civilian activities, it was explained, it is necessary for the ODT to determine the extent to which the denial of tire certificates threatens to slow down

You Can Get a High Priority for a

CURTIS COMPRESSOR



to Furnish Air for These Labor-Saving Tools

Air tools and equipment, operated by an adequate supply of air from Curtis Air Compressors, will enable you to save time, save labor, and reduce costs in your shop. If you're not using air for a majority of these tools and operations, you're not getting the most from your equipment—and air power helps solve that manpower shortage, too.

Curtis Air Compressors are designed to deliver a dependable supply of low-cost air. They'll stay on the job day after day with reliable performance, even in the heaviest duty service, throughout an exceptionally long, trouble-free life. Write for complete information as to priority ratings and prices.



CURTIS PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company
1970 Kienlen Avenue, St. Louis, Missouri

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✔ Use the air from your Curtis Compressor for the following tools and jobs:

Grease guns
Riveting hammers
Tire spreaders
Fender hammers
Brazing forges
Tire regroovers
Pneumatic wrenches
Spark plug testers
Engine cleaning guns
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Spring sprayers
Pneumatic hoists
For blowing out carbon
For cleaning parts
Door opening devices
Air drills
For drying parts
Paint sprayers
Air jacks
And many other labor-saving tools and operations

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or immobilize essential rubber-borne services and facilities.

The ODT, therefore, is requesting all eligible bus and truck operators who are denied tire certificates my local ration boards for any reason to report such denials to the ODT Motor Transport district offices, together with the reason assigned by the board for the denial of the certificates.

On the basis of this information, it was pointed out, ODT will be able to determine not only the degree of unmet truck and bus tire needs, regionally and by classes of service, but also the nature and extent of the action to be taken by the ODT in giving assistance to the operators of such vehicles, if assistance is warranted.

"The bus and truck tire situation is likely to remain serious for some time," the ODT declared. "The pinch may be relieved, at least to some extent, by trying to see to it that the tires available are distributed as nearly as possible in accordance with needs. We cannot hope to do this to the best advantage unless the ODT knows where tire needs are not being met and why. The ODT must rely on truck and bus operators to report this information, which is intended to serve their own ultimate good. I trust that they will cooperate in this new and very simple reporting system, as they have in other things."

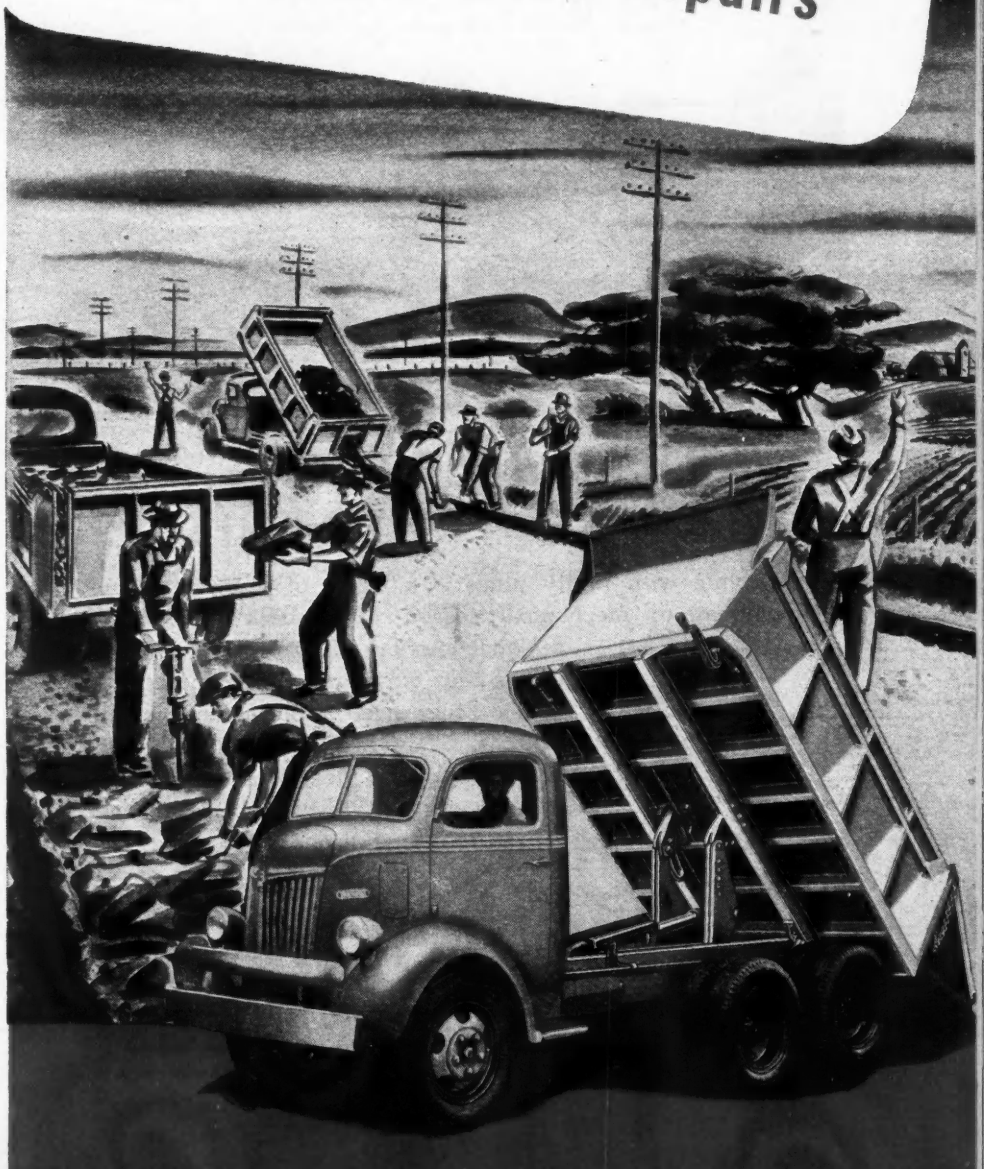
At the same time, the ODT reminded operators of commercial vehicles of its previously announced procedure for providing assistance in cases where tire certificates are issued, but the holders are unable to locate the proper tires. In such instances, the operators should inform their ODT district offices. This information will be transmitted to the Office of the Rubber Director. The ORD, in cooperation with the ODT, will then endeavor to arrange for the proper redistribution of tires so that all certificates can be honored as quickly as possible after issuance.

ODT Interprets Route Extension Restrictions

The ODT has issued an official interpretation to clarify the scope of Amendment 6 to General Order ODT 17, whereby ODT approval is required for the extension or inauguration of motor vehicle transportation

(Turn to Page 178, Please)

GALION
HYDRAULIC DUMP BODIES
are particularly suitable for
essential highway repairs



For Extra Service Equip Your Truck with GALION Hoists and Bodies
THE GALION ALLSTEEL BODY CO. • Galion, Ohio

ODT NEWS

(CONTINUED FROM PAGE 177)

service over a route or within a territory not being served by a motor carrier on October 25, 1943. The chief points covered in this Interpretation 17-23 are:

1. In applying the regulation with respect to extension of transportation service "over a route" or "within a territory," the character and extent of the operations should be determined from the operator's records and other available sources, including his certificate of war necessity, in addition to consulting the maps prepared by motor carriers in compliance with Section 501.75(a) in Amendment 3B to ODT 17.

2. A route or territory is to be regarded as "being served" on October 25, 1943, if the operator customarily operated trucks over such route or within such territory, even though he may have had no occasion to actually render that service on the specified date.

3. The Amendment does not prevent resumption of seasonal operations which a motor carrier was performing, in season, prior to October 25, 1943, although such seasonal service may not have been in operation over a route or within a territory on that date.

Dairy Industry Plans for Truck Conservation Expanded

An expansion of the dairy industry transportation program has been announced by ODT, which issued an order, effective March 15, designed to simplify and expedite plans for the conservation of trucks used by producers, haulers, dealers and processors to transport dairy products.

The order (Administrative Order ODT-19) affects the movement of dairy products from producing areas to assembly points and processing plants, and between assembly points and plants. It does not affect retail deliveries or wholesale deliveries to retail dealers. It prescribes the procedure for electing advisory committees of producers, haulers, dealers and processors and formulating dairy industry transportation plans for designated areas. The plans must be submitted to the ODT for its approval.

The order empowers ODT district managers, in the event that the necessary information is not given to them voluntarily, to acquire the data themselves.

Shell-Blasted GMC Named "Purple Heart"

Shortly after it was landed on the shore during the invasion of Sicily, a 2½-ton GMC truck was struck by an enemy shell. The shell tore a 12-in. hole in the bed of the truck and damaged both the body and chassis. It was named "Purple Heart" after the decoration given to men wounded in action.

There was no time for repairs, and the need for immediate transportation was vital. However, "Purple Heart" was still able to function. Without repairs, it carried load after load of equipment to fighting men at the front until there was time for welders of a maintenance crew to patch up its torn body.



YOU CAN HELP STOP THESE "POWER THIEVES"!

Driving with faulty plugs is a waste of gas that today amounts to "mechanical treason." Help check this waste—see that spark plugs are checked regularly—kept clean and properly gapped. When plugs need replacement, install Edisons. They fire hot, get maximum power out of the fuel. With the greatest name in electricity behind them, you can always rely on Edisons.



Edison
SPARK PLUGS
EDISON-SPLITDORF CORP., WEST ORANGE, N. J.

Here's Where the Trouble Starts!



And here's where Trouble Starts on an Oil Pumper



Carelessness never pays—that's why, at the first sign of oil pumping, it's wise and economical to check for bearing wear. Worn bearings quickly foul an engine by flooding the cylinder assemblies with excess oil which burns to carbon on pistons, piston rings, spark plugs and valves. Federal-Mogul Oil-Control Bearings are a critical, war-needed article—use them wisely—and then only if replacement is necessary to restore engine efficiency.

LET'S HELP THEM TO HELP US!

All of us, whether at home or abroad, are working for victory. Cooperation is imperative—and when you keep our cars, trucks, buses and tractors rolling at home—you are keeping our fighting men rolling "over there." *Remember, just any pair of hands can't replace your skill.* We are doing our part by doing our utmost to keep you supplied with service bearings. Let's work together for victory.

FEDERAL-MOGUL SERVICE • DETROIT 1, MICHIGAN
DIVISION OF FEDERAL-MOGUL CORPORATION

The Biggest Name In Engine Bearings

FEDERAL-MOGUL

Oil-Control Bearings



Use postage-paid card inserted in this issue for free information on advertised products

ODT Issues Order No. 10 To Operate JIOs

Requires registration of empty trucks at ODT district offices and sets lease rates. Clearance authority free; exemptions same

The regulation and operation of all Joint Information Offices was taken out of the hands of the industry on March 27 and placed under the control of the Office of Defense Transportation, through the facilities of the 142 ODT district offices throughout the nation. This new traffic and vehicle registration program, designed primarily to assist over-the-road operators in fully utilizing their equipment and eliminating empty and partially loaded hauls, was instituted through the revocation of General Order ODT 13, which originally authorized the establishment of Joint Information Offices, and by Administrative Order No. 10 coupled with revisions of the loading requirements for over-the-road carriers provided in Amendment 7 to General Order ODT 17 and Amendment 5 to Revised General Order ODT 3.

All vehicles exempted from the requirements of General Orders ODT 3, Revised, and ODT 17—such as tank trucks, certain farm trucks and vehicles whose capacity load does not exceed 12,000 lb. g.v.w.—also are exempted from the new registration plan.

In brief, the order requires every carrier to keep the ODT informed of the movement of all partially loaded and empty trucks so that, in effect, small loads can be pooled and all possible unused space can be made available to other carriers for all essential hauling. A reporting system has been adopted to provide for a weekly interchange of information on traffic and vehicle flow between districts.

The text of the order follows:

PART 503—ADMINISTRATION

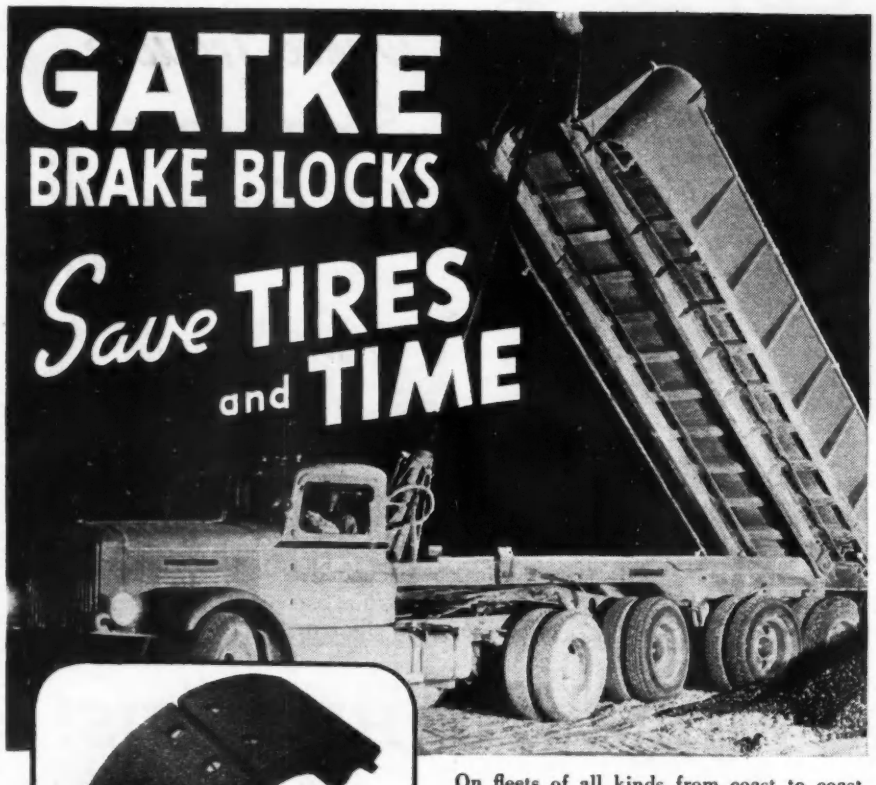
REGISTRATION OF FREIGHT AND EMPTY AND PARTIALLY LOADED VEHICLES

General outline. Under circumstances specified in General Order ODT 3, Revised, as amended, common carriers are required to register with a district office empty or partially loaded trucks, and freight which cannot be moved within a limited time. Under circumstances specified in General Order ODT 17, as amended, private and contract carriers are required to register empty trucks with a district office. Copies of the relevant provisions of those general orders are attached to this order for ready reference.

This administrative order prescribes procedure for such registration, and specifies the information to be submitted. It also permits contract carriers to register freight.

To the extent necessary to avoid operation of empty or partially loaded trucks in over-the-road service, the district manager is authorized to direct that a registered truck shall be used for a specific movement of freight, or that an empty truck shall be leased to a carrier for the transportation of freight, or, if such arrangements are not

(TURN TO PAGE 182, PLEASE)





GATKE BRAKE BLOCKS are Custom-Built

for all Trucks, Tractors, Trailers, Buses and Heavy Duty Axles.

On fleets of all kinds from coast to coast GATKE *CUSTOM-BILT* Brake Linings contribute to *safe, dependable operation* and reduced maintenance.

The smooth, *non-grabbing* action adds *countless* miles to tire life. Fewer adjustments and replacements *save precious maintenance hours.* Proper balance between shoes gives *maximum holding power.* Constant holding power at all operating temperatures with no letdown under prolonged use.

Comparison Proves. Use GATKE *CUSTOM-BILT* Brake Lining for your next 5 relines and *compare results with the best you have ever had.*

Ask your GATKE Jobber for particulars.

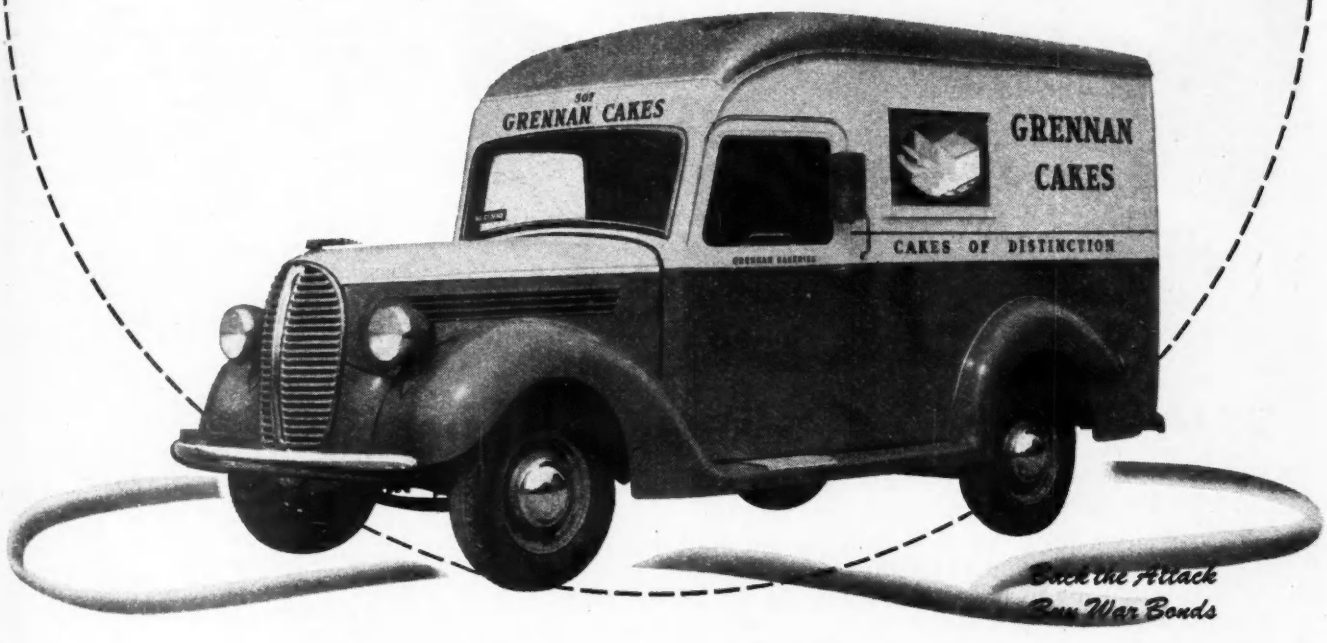
Gatke CUSTOM-BILT BRAKE LININGS

BLOCKS SETS ROLLS SHEETS

GATKE CORPORATION 228 N La Salle Chicago 1, Ill

GRENNAN REDUCED DECORATING COSTS

90% with MEYERCORD Truck Decals!



Unusual? Not at all. Thousands of fleet owners enjoy similar savings with Meyercord Decals . . . for longer lasting, low-cost truck decoration. Meyercord Decal decoration is practical for fleets of a dozen trucks or more . . . and delivers 100% pay loads of colorful sales impressions daily. Any design, any type of lettering, in any size or number of colors, can be reproduced . . . at a fraction of hand-painting costs. Meyercord Decals are washable, weather-tested for durability and over-night application reduces idle truck time! Re-decorate *your* trucks *now* to conserve their wartime value. Cash in on the valuable free advertising space they offer with Meyercord Decals. Experienced automotive designing service available to fleet owners free. Address all inquiries to Dept. 32-4.



NEW! DECAL TRUCK VISUALIZER

Contains helpful hints on lettering, decorating; with outline diagrams for experimental designing of many body types—from panel deliveries to vans and tank trucks. Includes valuable data for maximum use of advertising space on all areas of trucks.

Send for free copy!

THE MEYERCORD CO.
CHICAGO 44, ILLINOIS

ODT ORDER NO. 10

(CONTINUED FROM PAGE 180)

feasible, to issue clearance authority, permitting departure of the empty or partially loaded truck from the point of registration. This authority, for single or repeated departures, will be issued under circumstances specified in the order.

A common carrier registering an empty or partially loaded truck may be required to accept and transport registered freight, or, if the registered truck is empty, may be required to lease it to a contract carrier or to another common carrier.

Private and contract carriers are not required to register, or to obtain clearance authority for, partially loaded trucks. Such carriers must register empty trucks only, and may be required to lease such trucks to other carriers.

The district manager is authorized to direct, without discrimination, preference, or partiality, that registered freight be transported by a specified common carrier or that the carrier registering the freight shall lease an empty registered truck and use it for transportation of the registered freight.

Whenever, for the purpose of complying with orders of the Office of Defense Transportation, the truck is leased together with the services of the driver or helper regularly employed thereon, without transfer of either to the lessee's payroll, a prescribed standard form of lease must be used, and the terms and conditions under which the truck is leased will be governed by the provisions of the prescribed standard form. The carriers may agree on the amount of compensation to be paid for such leasing. Except as otherwsie agreed, the compensation shall be computed in accordance with schedules prescribed by the Office of Defense Transportation. If either carrier believes that the compensation computed in accordance with the prescribed schedules is inequitable, both carriers nevertheless shall promptly comply with the district manager's direction, but either carrier may apply to any duly authorized tribunal for the determination of compensation or may appeal to the Office of Defense Transportation for such determination. Pending such determination, provisional settlement, on the basis of the prescribed schedule, is required.

This general outline shall not be construed to alter the meaning of any provision of this order.

The text of Administrative Order ODT 10 follows:

Pursuant to the Act of May 31, 1941, as amended by the Second War Powers Act, 1942, Executive Orders 8989, as amended, 9156, 9214, and 9294, and War Production Board Directive 21, and in order to regulate registration of empty and partially loaded trucks and of freight available for transportation, pursuant to the provisions of General Order ODT 3, Revised, as amended, and General Order ODT 17, as amended, and in order to reduce operation of empty or partially loaded trucks in over-the-road service, it is hereby ordered, that:

Sec.

503.270 Registration of truck; information required.
503.271 Registration of freight; information required.
503.272 Registration of freight by contract carrier.
503.273 Withdrawal of registration.
503.274 Use of information registered.
503.275 Authority of district manager.
503.276 Issuance of clearance authority.
503.277 Issuance of general clearance authority.
503.278 Lease of vehicle; form: compensation.
503.279 Compliance by carriers.
503.280 Determination of compensation; appeals.
503.281 Applicability.
503.282 Definitions.
503.283 Communications.

AUTHORITY: §§ 503.270 through 503.283, issued under Act of May 31, 1941, as amended by Second War Powers Act, 1942, 56 Stat. L. 176, 50 U. S Code §§ 631 through 645a; E.O. 8989, as amended, 6 F.R. 6725 and 8 F.R. 14183; E.O. 9156, 9214, 9294, 7 F.R. 3349,6097, 8 F.R. 221; War Production Board Directive 21, 8 F.R. 5834; Gen. Ord. ODT 3, Rev., as amended, 7 F.R. 5445, 6689, 7694, 8 F.R. 4660, 14582, 9 F.R. 947, and this issue;

(TURN TO PAGE 184, PLEASE)



* Joe is missing! Joe sits in the driver's seat, and one of these jobs won't run without a driver. He's a small cog in the vast transportation system that is so important in this fight for Freedom.

Where is Joe? Well, Joe felt kinda tough and took the day off. He's been working regularly and hard for a long time, and it's a real job to handle a big tractor and trailer with its heavy loads these days. Joe's absence dropped another eight ball in the way of getting the goods through . . . only he didn't think of it like that.

Well, Joe, there are lots and lots of buck privates, fighting on the Cassino front at this minute, who are tired . . . and hungry . . . and even feeling tougher than you. They are not just giving their time for V-Day . . . they're risking their lives. They'd like to take a day off, too . . .

Joe . . . your taking time off isn't the way to win either. Let's all cooperate in this fight for Freedom, whether we are in uniform or out of it.

EDWARDS IRON WORKS, INC., SOUTH BEND, IND.

A limited number of Edwards Trailers are now available for essential civilian use under General Conservation Order M-100. Meanwhile, Edwards continues to build trailers for military use and other materiel of war.

EDWARDS SEMI-TRAILERS


GUNITE
BRAKE DRUMS
ENGINEERED
FOR THE
GIVEN
PROBLEM
MADE BY
GUNITE FOUNDRIES
ROCKFORD, ILLINOIS
800,000 BRAKE DRUMS SINCE 1928
GUNITE FOUNDRIES CORPORATION
304 PEOPLES AVENUE • ROCKFORD, ILLINOIS

ODT ORDER NO. 10

(CONTINUED FROM PAGE 182)

Gen. Ord. ODT 17, as amended, 7 F.R. 5678, 7694, 9623, 8 F.R. 8278, 12750, 14582, and this issue.

§ 503.270 *Registration of truck; information required.* Every carrier in registering an empty or partially loaded truck in compliance with General Order ODT 3, Revised, as amended, or General Order ODT 17, as amended, shall submit to the district office by telephone, telegraph, or in person, the following information:

(a) The place at which the person submitting the information may be reached;

(b) The name and address of the owner, lessee, or operator of the truck;

(c) The kind of carrier operating the truck, specifying whether common, contract, or private;

(d) The type of equipment, type of body, and the payload capacity thereof by weight and volume;

(e) The weight or volume and the nature of freight and dunnage, if any, loaded on the truck;

(f) The point and time at which the truck will be available for loading;

(g) The destination of the truck; and

(h) The Certificate of War Necessity number, license plate number, and the State in which the truck is registered.

§ 503.271 *Registration of freight; information required.* Every common carrier, in registering freight in compliance with General Order ODT 3, Revised, as amended, shall submit to the district office by telephone, telegraph, or in person, the following information:

(a) The name and address of the carrier submitting the information;

(b) The name of the shipper, the location of the freight, and the time when the freight will be ready for loading;

(c) The commodity or the nature of the freight to be transported;

(d) The weight or volume of the freight; and

(e) The destination of the freight.

§ 503.272 *Registration of freight by contract carrier.* Any contract carrier may register with a district office, in the manner provided in § 503.271 of this order, any freight available for transportation in over-the-road service which is controlled by or in the possession of or on order to such carrier.

§ 503.273 *Withdrawal of registration.* If, after registration, any truck or freight becomes unavailable for the purpose for which it was registered, the registering carrier forthwith shall notify the district office thereof and of the reasons therefor, and thereupon the registration shall be cancelled.

§ 503.274 *Use of information registered.* Information registered pursuant to this order shall be used by the district manager, as provided in §§ 503.275 and 503.276 of this order, without discrimination, preference, or partiality.

§ 503.275 *Authority of district manager.* (a) Upon registration of a truck or freight by a carrier pursuant to this order, the district manager, to the extent necessary to avoid operation of empty or partially loaded trucks in over-the-road service, may:

(1) In respect of an empty or partially loaded truck registered by a common carrier, direct that the truck be used in a specific movement for the transportation of designated freight;

(2) In respect of an empty truck registered by any type of carrier, direct that the truck be leased to a common or contract carrier for the transportation of registered freight;

(3) In respect of registered freight, (i) direct that it be transported by a specified common carrier which has registered a truck, or (ii) direct that the carrier registering the freight shall lease from a carrier a designated registered truck and use the truck for the transportation of such freight; or

(4) Issue clearance authority as provided in § 503.276 of this order.

(b) The district manager shall not direct a carrier to transport in any truck more than a capacity load or direct the transportation of freight in any truck unsuitable or inadequate for such transportation.

(c) The district manager shall not direct a common carrier to perform any transportation service which it is not authorized to perform.

(d) The district manager shall not

(TURN TO PAGE 187, PLEASE)



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(CONTINUED FROM PAGE 184)

direct a common carrier to transport freight, or direct any carrier to lease a truck for transportation of freight beyond the registered distination of the truck, or to any point off the route that the truck otherwise would have traveled, unless:

(1) The distance travelled by reason of complying with such direction will not exceed by more than 25% the distance the truck otherwise would have travelled to reach its registered destination, and

(2) The truck will be laden with 50% or more of a capacity load for 75% or more of the distance travelled.

(e) The district manager shall give to any private carrier who inquires therefor information as to empty trucks registered by private or contract carriers.

§ 503.276 *Issuance of clearance authority.* (a) Subject to the provisions of § 503.275 of this order, clearance authority shall be issued by the district manager, in respect of a registered truck:

(1) To a common carrier (i) when the carrier has accepted for transportation all freight that the district manager has directed the carrier to transport, or (ii) when there is no registered freight which the district manager is authorized to direct the carrier to transport, and, if the truck is moving empty, there is no registered carrier to which the district manager is authorized to direct that the truck be leased.

(2) To a private or contract carrier, if there is no registered carrier to which the district manager is authorized to direct that the truck be leased.

(b) The issuance of clearance authority shall be evidenced by a clearance number, which shall be assigned by the district manager in respect of the registered truck at the time of issuance thereof, and shall authorize the movement of the truck to a specified point without further inquiry or registration. The clearance number may be given to the carrier, or to the carrier's representative, in person or by telephone or telegraph.

§ 503.277 *Issuance of general clearance authority.* Whenever it appears to a district manager that a truck will repeatedly depart from any point under circumstances that will warrant issuance of separate clearance authorities under the provisions of § 503.276 of this order, the district manager may issue written general clearance authority, in lieu of such separate clearnance authorities, and may limit the period of effectiveness of, or at any time revoke, such general clearance authority.

§ 503.278 *Lease of vehicle; form; compensation.* (a) Whenever, for the purpose of complying with any order of the Office of Defense Transportation, a truck is leased, together with the services of a driver or helper, without transfer of either to the lessee's payroll, a written lease shall be executed by the carriers in the form hereby prescribed therefor, as reproduced in Appendix 1 hereof: *Pro-*

(TURN TO PAGE 188, PLEASE)

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BIRD-WHITE COMPANY

DEPT. 2, 3119 WEST LAKE STREET, CHICAGO, ILLINOIS

ODT ORDER NO. 10

(CONTINUED FROM PAGE 187)

vided, That, where the circumstances permit and the carriers agree, a multiple trip lease substantially in the form herein prescribed, may be executed by the carriers. The leasing of the truck shall be subject to all of the terms and conditions specified in such form of lease. Upon agreement of both carriers, additional terms and conditions, not in conflict with the prescribed terms and conditions, may be included in the lease.

(b) One copy of the lease shall be carried in the truck throughout the period of utilization, and one copy shall be mailed by the lessee, postage prepaid, to the district office in the district in which the transportation begins, within 24 hours after its execution.

(c) Except as may be otherwise provided in the lease agreement between the carriers, the amount of compensation to be paid to the lessor of a truck by the lessee, when the leasing is effected under the circumstances set forth in paragraph (a) of this § 503.278, shall be computed in accordance with schedules governing such compensation hereby prescribed therefor, as reproduced in Appnedix 2 hereof, and in effect in the district in which the transportation begins. Such schedules, in so far as they relate to transportation beginning in each district, shall be on file and available for public inspection in each district office.

§ 503.279 *Compliance by carriers.* Whenever either carrier believes that the amount of compensation computed in accordance with the prescribed schedules is inequitable, both carriers nevertheless shall comply promptly with any direction issued by the district manager in accordance with this order, and the lessee shall pay to the lessor, upon termination of the lease, or at such other time as may have been agreed upon, the amount computed by the lessee to be payable under the applicable prescribed schedules. Such payment may be made and received without prejudice to a determination of the amount of compensation by any duly authorized tribunal, or by the Office of Defense Transportation upon appeal of either carrier for such determination in accordance with § 503.280 of this order.

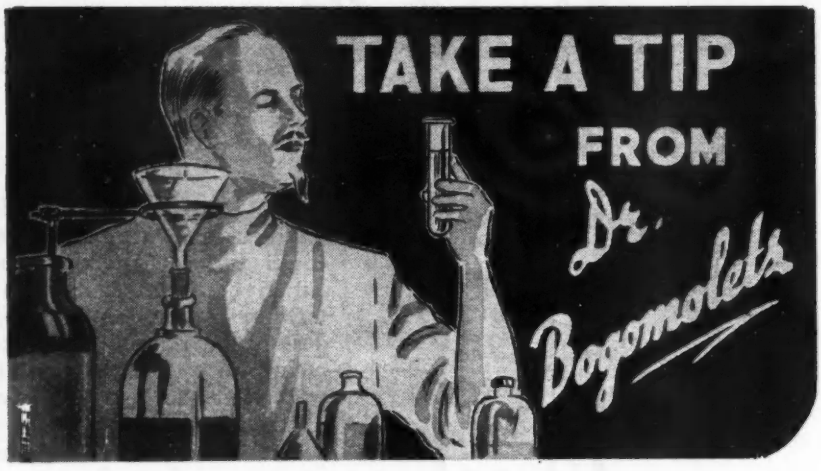
§ 503.280 *Determination of compensation; appeals.* (a) Any appeal for determination of compensation filed pursuant to § 503.279 of this order shall be in writing, shall be filed, within 10 days after expiration of the lease, with the district manager of the district in which transportation under the lease began, and shall state the reasons why the compensation paid or received is claimed to be inequitable. The carrier filing the appeal shall serve a copy thereof forthwith upon the other carrier by registered mail, at the latter's address shown in the lease. Upon receipt of the appeal the district manager shall forward the appeal, and all papers in his possession relating thereto, to the regional director of the region in which such district is located. Within a time limited by the regional director, the carriers may submit any written evidence, briefs, or arguments deemed relevant to the appeal. The regional director shall render a decision in writing, determining the amount of compensation payable, as the facts may warrant, and shall serve a copy of his decision upon the carriers by registered mail at their addresses shown in the lease.

(b) Within 10 days after the mailing of a copy of the regional director's decision, either carrier may file with the regional director a written appeal to the Director of the Office of Defense Transportation, Washington 25, D. C., which shall state the reasons why the decision should be changed. Upon receipt of the appeal, the regional director shall forward the appeal, and all papers in his possession relating to the matter to be reviewed to the Director of the Office of Defense Transportation, who will affirm, increase or reduce the amount of compensation determined by the regional director, as the facts appearing in the record may warrant, and will notify the carriers thereof.

§ 503.281 *Applicability.* The provisions of this order shall be applicable only in the continental United States.

§ 503.282 *Definitions.* As used in this order, the term: (a) "Truck" means either (1) a straight truck, (2) a combination

(TURN TO PAGE 190, PLEASE)





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YOU can lengthen the life of your *motors* and keep *them* peppy and powerful to a ripe old age by adding NU-POWER to your fuel regularly.

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A tight motor is an efficient motor. **Tite-Seal** prevents leaks of gases, liquids, and power from combustion chambers and at all other points. **Tite-Seal** stays soft—allows easy disassembly—saves labor. Vibration proof. **Tite-Seal** is the complete gasketing and sealing compound



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Dept. CC-4, South Bend 27, Indiana

Send free, sample copy of booklets checked:
☐ *"Care and Maintenance of the Farm Truck in Wartime."*
☐ *"Wartime Information for the Delivery Truck Operator."*

My name _____
Firm _____
Street and No. _____
City and State _____

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truck-tractor and semitrailer, (3) a full trailer, (4) or any combination thereof, (5) or any other rubber-tired vehicle propelled or drawn by mechanical power when used in the transportation of property, other than a vehicle engaged primarily in the transportation of persons.

(b) "Person" means any individual, partnership, corporation, association, joint-stock company, business trust, or other organized group of persons, or any trustee, receiver, assignee, or personal representative, and includes any department or agency of the United States, any State, the District of Columbia, or any other political governmental or legal entity.

(c) "Common carrier" means any person which holds itself out to engage in the transportation of property for the general public in over-the-road service by truck for compensation, regardless of the designation of such person under any federal or state statute.

(d) "Contract carrier" means any person other than a common carrier which engages in the transportation of property by truck in over-the-road service for compensation, regardless of the designation of such person under any federal or state statute.

(e) "Private carrier" means any person, other than a common carrier or a contract carrier, which engages in the transportation of property by truck in over-the-road service, regardless of the designation of such person under any federal or state statute.

(f) "Carrier," unless otherwise indicated by the context, includes common carriers, contract carriers and private carriers.

(g) "Over-the-road service" means all operations of a truck except (1) those within an area which includes any municipality or urban community and a zone extending 25 air miles from the boundaries thereof; (2) those within and between contiguous municipalities or urban communities; and (3) those not more than 25 miles in length.

(h) "Capacity load" has the meaning specified for that term in § 501.4 (g) of General Order ODT 3, Revised, as amended, and in § 501.65 (h) of General Order ODT 17, as amended.

(i) "District" and "region" mean, respectively, a district and region of the Division of Motor Transport of the Office of Defense Transportation as described in Administrative Order ODT 6 (8 F.R. 13194).

(j) "District Office" shall include any branch thereof.

(k) "District Manager" means the manager of a district.

(l) "Regional Director" means a director of a region.

(m) "Continental United States" means the 48 states and the District of Columbia.

§ 503.283 *Communications.* Communications concerning this order should refer to "Administrative Order ODT 10," and, unless otherwise directed, should be addressed to the Division of Motor Transport, Office of Defense Transportation, Washington 25, D. C.

This order shall become effective on March 27, 1944.

NOTE: The reporting and recording requirements of this order have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

Issued at Washington, D. C., this 10th day of March 1944.

C. D. YOUNG,
Deputy Director,
Office of Defense Transportation.

APPENDIX 1

TRIP LEASE OF TRUCK

This trip lease is executed in compliance with orders of the Office of Defense Transportation pertaining to the leasing of empty trucks.

2. The lessor, ...
(name)
.....
(business address)
represents that in the course of normal operation lessor intends to operate the truck described below from ..... to
(city and state)
..... on .....
(city and state) (date)
as a .....
(common, contract, or private)
carrier, and that, except for this lease, the

(TURN TO PAGE 192, PLEASE)

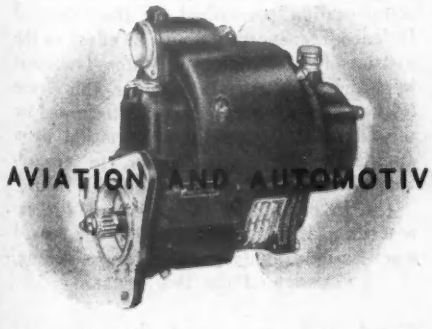




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Soon the North Pole will need a marker — adequate identification for the post war passengers on polar routes who'll want to tell their friends they've really seen it. Meanwhile American Bosch sticks to its war jobs — starting vibrators for positive ignition at all temperatures from equator to the arctic circle — aviation magnetos that have helped modern aircraft engines maintain service ceilings of seven miles and more — gasoline injection equipment that saves fuel, steps up pay load, increases engine performance and round trip military range. Whether the future will demand more and more production for military needs or a rapid changeover to transports for polar and other global routes, in research, design and production, American Bosch will continue to serve all branches of the internal combustion industry.

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Today, many new developments are coming from our laboratories that will mean better Naugahyde Upholstery after the war. Then, you will want to remember Naugahyde—the upholstery that resists wear, looks smart, costs little.

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ODT ORDER NO. 10

(CONTINUED FROM PAGE 190)

truck described below would move empty from ..... to .....
(city and state) (city and state)

3. The lessee, ...
(name)
.....
(business address)
represents that lessee is a .....
(common, contract, or private)
..... carrier.

4. The term of this lease shall be the duration of one single trip from .....
(city and state)
to ..... via highway .....
(city and state)

5. The following is a description of the truck covered by this lease:
(a) Truck or tractor No. .... Make .....
..... Model ..... Year ..... Type of body ..... Serial No. .....
License No. .....
(b) Semi-trailer No. ..... Make .....
..... Model ..... Year ..... Type of body ..... Serial No. .....
License No. .....
(c) Full trailer No. ..... Make .....
..... Model ..... Year ..... Type of body ..... Serial No. .....
License No. .....

6. During the term of this lease the leased truck shall be operated only by the driver named ..... Such driver, and any helper furnished by the lessor, shall remain on lessor's payroll.

7. Unless otherwise agreed herein, the leased truck shall not be operated for the purpose of making more than one collection and one delivery of freight transported in line-haul operation of the truck.

8. The compensation to be paid to the lessor by the lessee for the leasing of the truck and for the services of the driver named in paragraph 6 shall be paid upon termination of this lease, unless otherwise agreed herein, and shall be computed as follows:

(a) [*Here insert details of compensation, including time of payment, if and as agreed upon between the carriers, or, if not agreed upon, specify the method or means to be used in computing or determining compensation.*]

(b) If no agreed amount, or means of method of computing or determining the amount, of compensation is specified in sub-paragraph (a) next preceding, the compensation under this lease shall be computed in accordance with the schedule of compensation prescribed by the Office of Defence Transportation and in effect in the district of the Division of Motor Transport in which transportation under this lease begins, or shall be as finally determined by the Office of Defense Transportation upon application by either carrier, in accordance with Administrative Order ODT 10.

(c) In computing compensation for excess time, if any, during which the leased truck is held at destination for unloading,

(TURN TO PAGE 194, PLEASE)

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Yes Sir... "50% more service"... that's exactly what a large fleet operator reported recently in an unsolicited letter. Sometime ago, we asked this operator to TRY Bowers Batteries and keep an accurate record of mileage and performance. His road test, carefully made, showed *50% more service* rendered than by any other battery he had used. This experience is not unusual... it's typical of the results invariably secured when Bowers Batteries are called upon to PROVE their longer, more dependable service. *THIS* IS THE BATTERY for *you* to put-to-the-test right now... in wartime... when *dependability* and *longer life* are more important to you than ever before. DON'T "take *our* word" for it... FIND OUT FOR YOURSELF!

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DOUBLE DUTY BATTERIES AND SPARK PLUGS

ODT ORDER NO. 10

(CONTINUED FROM PAGE 192)

the hours between.....o'clock.....M. on ..... and .....o'clock..M.
(date)
on..... shall not be included.
(date)

9. This lease is executed in triplicate.

10. The lessor and lessee hereby agree to all of the terms, conditions, and representations set forth in this lease, including those appearing on the reverse side hereof.

.....
Lessor

By.....
Agent

.....
Lessee

By.....
Agent

Date ..... Time .....

ADDITIONAL TERMS, CONDITIONS AND REPRESENTATIONS

(To be reproduced on reverse side of lease)

A. The lessee, upon completion of the loading of the vehicle, shall furnish lessor with documentary evidence of the weight or volume of the freight loaded thereon.

B. The lessee shall assume direction and control of the leased vehicle and full responsibility to the public, shippers, and consignees, for its operation. The lessee shall also display prominently on both sides of the leased vehicle (on tractor only, where tractor-trailer is involved) the name of the lessee preceded by the words "Operated by," and the number of any operating certificate or permit held by the lessee.

C. The lessee shall pay only such tolls, ferry charges, state fees, and fines as are directly attributable to the transportation of lessee's freight in the leased vehicle.

D. The lessee, if a private carrier, represents that the leased vehicle is to be utilized for the transportation of property only to a point to which, or in an area within which, the lessee ordinarily operates motor trucks, and that, except for such utilization, the lessee would have used his own truck for the transportation to be performed hereunder in the leased vehicle.

E. The lessor, during the term of this lease, shall be responsible for the maintenance, service, and repair of the leased vehicle, and shall provide motor fuel, oil, tires, and other equipment necessary to operate the vehicle.

F. The lessor, during the term of this lease, shall be responsible for the deduction and payment of all payroll deductions, tax withholdings, taxes, assessments, premiums, and other payments, due by reason of the payment of wages or other earnings to the driver or any helper utilized in the operation of the leased vehicle without transfer to the lessee's payroll.

G. The lessor's copy of this lease shall be carried in the leased vehicle throughout the period of utilization, one copy shall be retained by the lessee, and one copy shall be mailed by the lessee, postage prepaid, within 24 hours after its execution, to the district office in the district of the Division of Motor Transport, Office of Defense Transportation, in which transportation under the lease is to begin.

H. Other terms, conditions, and representations, not inconsistent with the foregoing:

APPENDIX 2

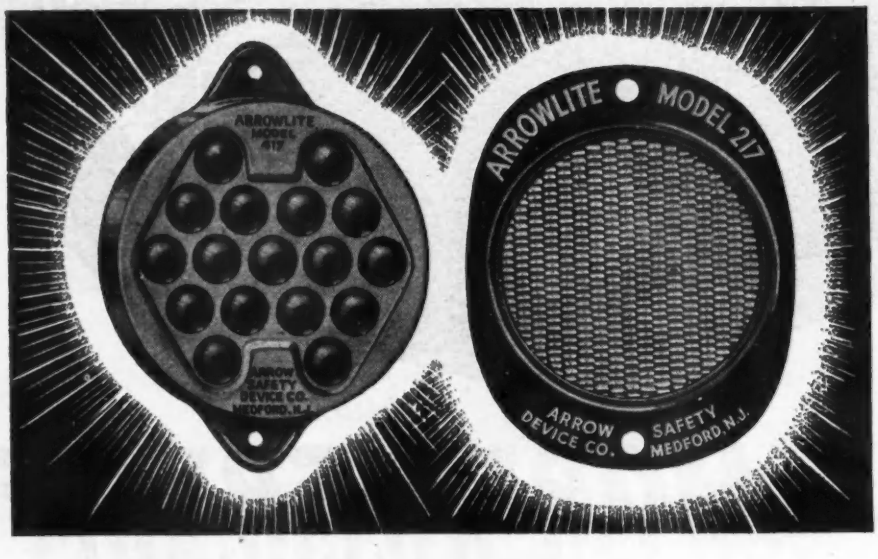
SCHEDULES AND RULES AND REGULATIONS GOVERNING COMPENSATION FOR TRIP LEASES OF TRUCKS

Rule 1. *General application.* Schedules 1 to 9, inclusive, are to be used in determining the compensation for the use of a truck leased under the circumstances set forth in paragraph (a) of § 503.278 of Administrative Order ODT 10, when and if the lessor and lessee are unable to agree as to the amount of compensation to be paid the lessor by the lessee for the use of the truck.

Rule 2. *Territorial application.* Schedule 1 applies to the use of a truck leased under the circumstances set forth in paragraph (a) of § 503.278 of Administrative Order ODT 10, when the use of such truck begins at any point within Region 1 of the Division of Motor Transport, Office of Defense Transportation, as described in Appendix 1 to Administrative Order ODT 6.

Schedules 2, 3, 4, 5, 6, 7, 8, and 9 apply in like manner to the use of a truck leased under the circumstances set forth in para-

(TURN TO PAGE 198, PLEASE)



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SIDEVIEW MIRRORS
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DIRECTIONAL SIGNALS
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TAIL LAMPS
DOME LIGHTS

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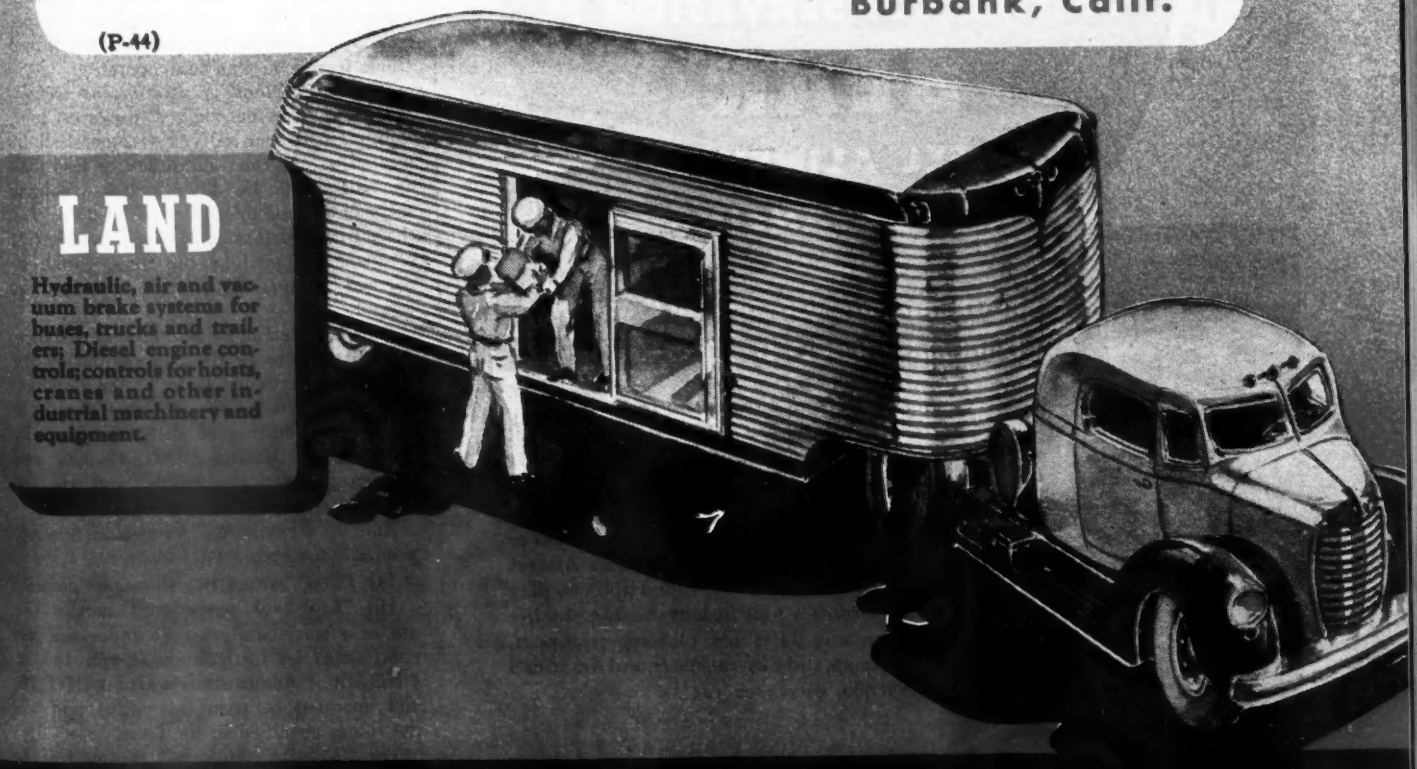
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ODT ORDER NO. 10

(CONTINUED FROM PAGE 194)

graph (a) of § 503.278 of Administrative Order ODT 10, when the use of such truck begins at any point within Regions 2, 3, 4, 5, 6, 7, 8, and 9, respectively, of the Division of Motor Transport, Office of Defense Transportation, as described in Appendix 1 to Administrative Order ODT 6, subject to the following exceptions:

(a) When the use of such leased truck begins at any point within Region 7 and terminates, under the provisions of the trip lease, at a point located in Region 8, Schedule 8 shall apply, and when such termination point is located in Region 9, Schedule 9 shall apply;

(b) When the use of such leased truck begins at a point within the Denver, Colorado; Pueblo, Colorado; Billings, Montana; Casper, Wyoming; or Cheyenne, Wyoming, districts of Region 8 of the Division of Motor Transport, as described in Appendix 3 to Administrative Order ODT 6, and terminates, under the provisions of the trip lease, at a point located in Region 5, Schedule 5 shall apply, and when such termination point is located in Region 6, Schedule 6 shall apply.

Rule 3. *Monetary application of schedules.* Schedules 1 to 9, inclusive, specify compensation per mile for indicated weights and distances.

Rule 4. *Loading and unloading time.* Schedules 1 to 9, inclusive, include compensation for a period not to exceed two hours for waiting and loading at point of origin, and not to exceed two hours for waiting and unloading at point of destination.

Rule 5. *Excess time.* All time in excess of two hours at either origin or destination point, whether consumed in waiting, loading or unloading, shall be considered as excess time. The lessor shall receive compensation from the lessee for such excess time at the hourly rate prevailing for the driver in line-haul operation.

If the lessee specifies a time and point for loading, and if, at the specified time, lessor's truck is at the designated point and ready to load, excess time shall start two hours after the time specified; if, at the specified time, lessor's truck is not at the designated point and ready to load, excess time shall start two hours after lessor's truck arrives at the designated point and is ready to load. If the lessee does not specify a time, then the excess time shall start two hours after the lessor's truck arrives at the designated point and is ready for loading.

Excess time at point of destination shall start two hours after the time the leased truck arrives at the point of destination, unless otherwise specified in the lease.

Rule 6. *Excess mileage.* When a leased truck is operated for the purpose of effecting collection or delivery of freight transported or to be transported in the leased truck in line-haul operation, the lessor shall be compensated for any excess mileage so operated at the same compensation per mile applicable to the distance the leased truck travels in line-haul operation.

Rule 7. *Method of determining weight.* Weight shall be determined in nearest tons, a fraction of one-half or greater shall be treated as one ton; a fraction of less than one-half shall be disregarded. Volume shipments shall be converted to tons. For the purpose of that conversion, a cubic foot of space occupied by the freight shall be deemed to equal 20 pounds of freight by weight.

Rule 8. *Method of determining distance.* The distance to be used in computing the compensation under Rule 10 for line-haul operation shall be the distance shown in the current edition of the Rand-McNally Atlas of the United States, Canada and Mexico between the points, and via the routes, specified in the lease.

Rule 9. *Definitions.* As used in this Appendix 2 the term:

(a) "Ton" means two thousand pounds.

(b) "Line-haul operations" means the use of a truck while leased under the circumstances set forth in paragraph (a) of § 503.278 of Administrative Order ODT 10, and operated between the points and via the routes specified in the lease.

(c) "Volume shipment" means freight weighing less than 20 pounds per cubic foot of space occupied.

Rule 10. *Method of determining line-haul compensation.*

First: Determine the applicable weight in accordance with Rule 7.

(TURN TO PAGE 200, PLEASE)

A Vital Part of the Program



Most Important Tire Saving Procedures Outlined in the O. D. T. Manual are—



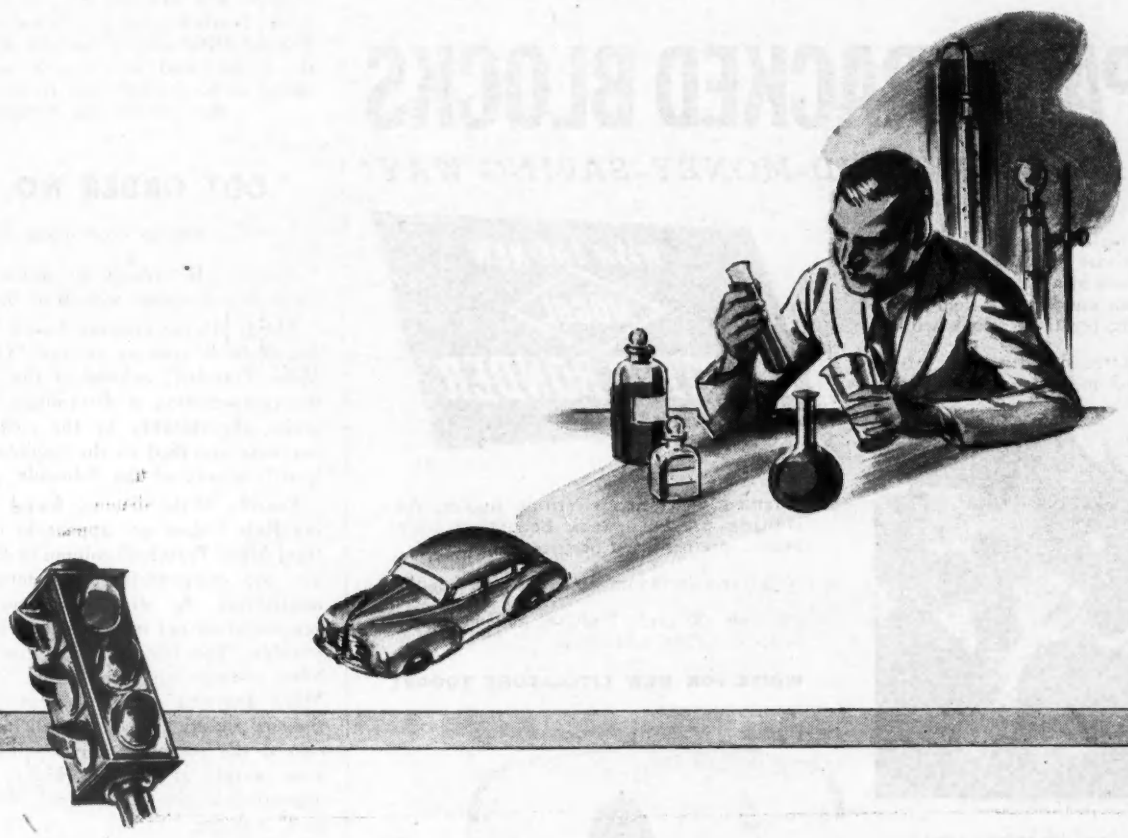
Item 23 in the 1,000 mile inspection.
Items 17 and 23 in 5,000 mile inspection.
Item 21 in the 15,000 mile inspection.

Just as important as wheel alining *is wheel balancing.* All other precautions are nullified completely if wheels are out of alinement *or balance!* That is why Bear Wheel Aliners and Balancers are being called upon to play so important a part in lengthening the life of tires and parts for military transport, motor truck and bus transport, and America's 25,000,000 passenger cars.

GET BEAR EXPERT ADVICE AND INSIST ON BEAR SERVICE

Send your questions about tire conservation to us. As pioneers in wheel alinement and balancing we can show you how to get the most out of tires. If you wish names of Bear Service Stations in your vicinity, we'll gladly send them to you. Address Bear Mfg. Co., Dept. CCJ, Rock Island, Illinois.

Safe Stops from a Test Tube!



The efficient operation of hydraulic brakes—no matter how well designed, how carefully adjusted—finally comes down to the chemical composition of the actuating fluid. To assure smooth, safe stops at all times, the hydraulic fluid must possess certain essential chemical characteristics. It must be non-evaporating; harmless to rubber and metal; provide proper lubrication for the system; retain its viscosity in *any* climate.

R. M. Hollingshead Corporation is a major supplier of hydraulic fluids for military vehicles and aircraft and for the automotive industry. It was natural that the famous Hollingshead chemical laboratories should develop the *right* brake fluid! You'll find *all* the essential chemical characteristics compounded in genuine WHIZ No. 3 HYDRAULIC BRAKE FLUID. *R. M. Hollingshead Corporation, Camden, New Jersey, Toronto, Canada.*



BUY MORE BONDS!

SCHEDULE No. 1—COMPENSATION PER MILE AT VARYING WEIGHTS AND MILES APPLICABLE TO O. D. T. REGION No. 1

Line haul miles traveled	1-ton load	2-ton load	3-ton load	4-ton load	5-ton load	6-ton load	7-ton load	8-ton load	9-ton load	10-ton load	11-ton load	12-ton load	13-ton load	14-ton load	15-ton load	16-ton load	17-ton load	18-ton load	19-ton load	20-ton load
50	.....	.....	0.229	0.257	0.286	0.315	0.343	0.372	0.400	0.429	0.458	0.486	0.515	0.543	0.572	0.601	0.629	0.658	0.686	0.715
60	.....	.....	.203	.228	.253	.279	.304	.329	.355	.380	.405	.431	.456	.481	.507	.532	.557	.583	.608	.633
70	.....	.....	.184	.207	.230	.253	.276	.299	.322	.345	.368	.391	.414	.437	.460	.483	.506	.529	.552	.575
80	.....	.....	.170	.191	.213	.234	.255	.276	.298	.319	.340	.362	.383	.404	.425	.447	.468	.489	.510	.532
90	.....	.....	.159	.179	.199	.219	.239	.259	.279	.299	.319	.339	.359	.379	.398	.418	.438	.458	.478	.498
100	.....	.....	.151	.170	.189	.208	.227	.246	.264	.283	.302	.321	.340	.359	.378	.396	.415	.434	.453	.472
120	.....	.....	.133	.150	.167	.183	.200	.217	.233	.250	.267	.283	.300	.317	.333	.350	.367	.383	.400	.417
140	.....	.....	.121	.136	.151	.166	.181	.196	.211	.226	.241	.256	.271	.286	.301	.316	.331	.347	.362	.377
160	.....	.....	.111	.125	.139	.153	.166	.180	.194	.208	.222	.236	.250	.264	.277	.291	.305	.319	.333	.347
180	.....	.....	.103	.116	.129	.142	.155	.168	.181	.194	.207	.220	.233	.246	.259	.272	.285	.298	.310	.323
200	.....	.....	.098	.110	.122	.134	.146	.159	.171	.183	.195	.207	.220	.232	.244	.256	.268	.281	.293	.306
220	.....	.....	.092	.104	.115	.127	.138	.150	.162	.173	.185	.196	.208	.219	.231	.242	.254	.265	.277	.288
240	.....	.....	.087	.098	.109	.120	.131	.142	.153	.164	.175	.186	.197	.208	.219	.229	.240	.251	.262	.273
260	.....	.....	.084	.094	.105	.115	.126	.136	.146	.157	.167	.178	.188	.199	.209	.220	.230	.241	.251	.262
280	.....	.....	.081	.091	.101	.111	.121	.131	.141	.151	.161	.171	.181	.191	.201	.211	.221	.232	.242	.252
300	.....	.....	.078	.088	.097	.107	.117	.127	.136	.146	.156	.165	.175	.185	.195	.204	.214	.224	.234	.243
320	.....	.....	.075	.085	.094	.103	.113	.122	.132	.141	.150	.160	.169	.179	.188	.197	.207	.216	.226	.235
340	.....	.....	.073	.082	.091	.100	.109	.118	.127	.136	.145	.154	.163	.172	.181	.190	.199	.208	.218	.227
360	.....	.....	.070	.079	.088	.097	.106	.114	.123	.132	.141	.150	.158	.167	.176	.185	.194	.202	.211	.220
380	.....	.....	.068	.077	.085	.094	.102	.111	.119	.128	.137	.145	.154	.162	.171	.179	.188	.196	.205	.213
400 and over	.....	.....	.066	.074	.083	.091	.099	.107	.116	.124	.132	.141	.149	.157	.165	.174	.182	.190	.198	.207

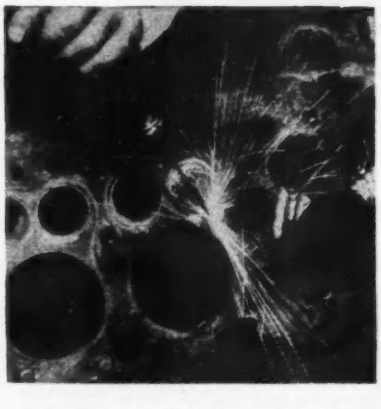
REPAIR CRACKED BLOCKS

THIS NEW TIME-AND-MONEY-SAVING WAY!

This new miracle method makes it possible to make those cracked cylinder blocks as good as new in a fraction of the time and opens an entirely new field for the money-saving repair on block work.

Mogul Electric Bonding is a proven method and many shops today are

WITH THE NEW MOGUL ELECTRIC BONDER



repairing cracked blocks on a production basis using these remarkable new units.

Cape chisel, center punch, small grinder, Mogul Electric Bonder and new Mogul Colloidal are the only tools and equipment necessary.

The Bonder has other important uses including filling in scores, adding of metal for press fits, repairing defective aluminum and grey iron castings.

ANOTHER FIRST FOR MOGUL

This new Electric Bonder as well as the method is another engineering contribution of the Metallizing Company of America, foremost manufacturer of Metallizing Guns and Equipment.

Patented air-cooled electrode holder. Air cooling prevents work becoming overheated, pre-hardened or distorted.

Nickel and aluminum electrodes are available.

220 volt, 60 cycle 1 phase, 440 watt, also available $10.00 additional.

WRITE FOR NEW LITERATURE TODAY!



PRICE $350.00 IMMEDIATE DELIVERY

METALLIZING COMPANY OF AMERICA

Dept. CC1. 1330 W. Congress Street, Chicago, Illinois • 135 Cedar Street, New York, N. Y.

One of nine ODT Compensation Schedules to be used in determining charges for the use of a truck leased as set forth in paragraph (a) of §503.278 of ODT Order No. 10 when, and if, lessor and lessee are unable to agree as to the amount to be paid for the use of the truck.

ODT ORDER NO. 10

(CONTINUED FROM PAGE 198)

Second: Determine the applicable distance in accordance with Rule 8.

Third: If the distance found by applying Rule 8 appears in the "Line Haul Miles Traveled" column of the Schedule, the compensation is determined by multiplying the distance by the *compensation per mile* specified in the applicable "Ton Load" column of the Schedule.

Fourth: If the distance found by applying Rule 8 does not appear in the "Line Haul Miles Traveled" column of the Schedule, the compensation is determined by multiplying the distance found by the *compensation per mile* specified in the applicable "Ton Load" column for the next lower distance appearing in the "Line Haul Miles Traveled" column: *Provided,* That the compensation payable shall in no event exceed the compensation payable for the same weight at the next higher distance appearing in the "Line Haul Miles Traveled" column.

Fifth: If the distance found by applying Rule 8 is less than 50 miles, the compensation is determined by multiplying the distance found by the *compensation per mile* specified in the applicable "Ton Load" column for a line haul of 50 miles.

Sixth: If *under Schedule 1,* the distance found by applying Rule 8 is more than four hundred miles, the compensation is determined by multiplying the distance found by the *compensation per mile* specified in the applicable "Ton Load" column for a line-haul of four hundred miles.

Bowers Acquires General Lead, Durex and Royal Battery

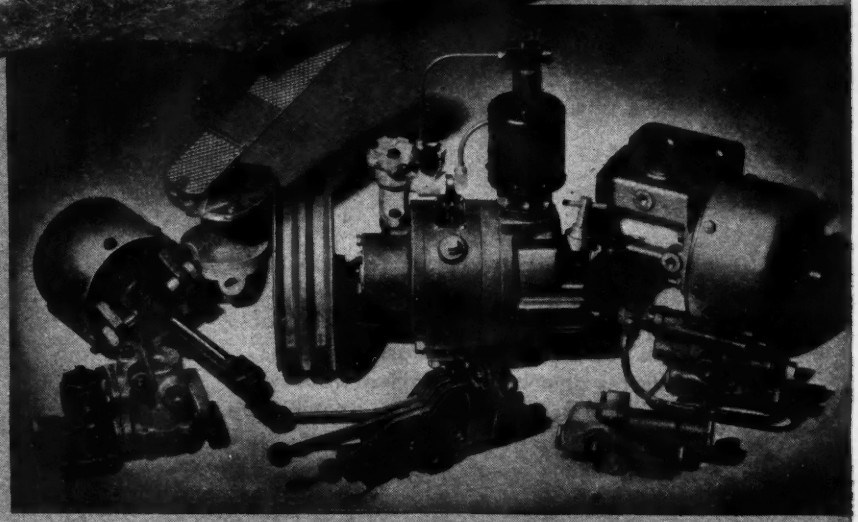
The Bowers Battery & Spark Plug Co., of Reading, Pa., has purchased the General Lead Co., Durex Battery Co. and the Royal Battery Co., all of Paterson, N. J.

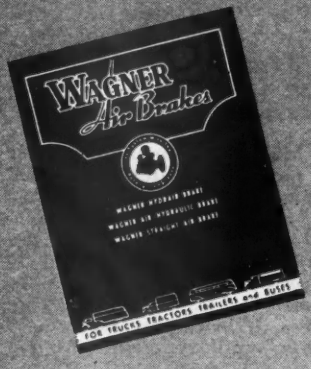
HEAVY COMBAT VEHICLES USE--

WAGNER AIR CONTROLS



Army's M-5, 13-ton high-speed tractor pulling a 155-mm howitzer. This prime mover is equipped with Wagner air controls.





Wagner can furnish air-brake systems that will give outstanding economy, not only in brake maintenance, but also in increased safety. A national organization stands ready to offer any service that is necessary in the field. Write for Bulletin KU-50.

THE SUCCESS AND SAFETY of our armed forces depends upon the reliability of the equipment used. Combat vehicles in this war are built to take a lot of punishment, and they have proved that they can "take it."

Many of the heavy-duty military vehicles and prime movers used by the armed forces are equipped with Wagner air controls. These controls, which are parts of the Wagner Air-Brake Systems, are also utilized on many other types of combat vehicles to supply compressed air for steering, gear-shifting, and tire inflation.

K44-2

ARMY E NAVY

Wagner Electric Corporation
ESTABLISHED 1891
6470 Plymouth Avenue, St. Louis 14, Mo., U.S.A.
AUTOMOTIVE AND ELECTRICAL PRODUCTS

WAGNER *Air Brakes*

New Dynamometer Tests Axles as if in Operation

The old saying that "there is nothing new under the sun" is contradicted by a new type of dynamometer designed by The Timken-Detroit Axle Co. for testing driving axles under a very close approximation of actual operating conditions. The Timken dynamometer is rated at 250 hp. and is one of the largest of its kind ever built.

In testing a driving axle on the dynamometer, the complete axle, including tires and wheels, is mounted in the machine with torque applied at the pinion and resisted at the tires. Means are provided for applying static load at the spring seats while the axle is under test, thereby closely simulating actual road operation.

The new Timken dynamometer is mounted on a metal bed plate measuring 25 feet square. The maximum low range capacity of the machine is 9000 pounds-feet output torque, constant within a speed range of 63 to 125 r.p.m., and 4000 pounds-feet at 132 to 265 r.p.m. in high range.

Power is provided by a 250-hp., 900 r.p.m. constant-speed electric motor connected to a cradled reducing gear through a hydraulic coupling. Speed variation is controlled by the amount of fluid in the working of the coupling.

The output shaft of the reducing gear is connected to the pinion shaft of the axle under test through a propeller shaft having universal joints at each end, similar to conventional propeller shafts used on motor trucks.

Power absorption is by generation of electric current which is fed back to the main power source, thereby saving approximately 75 per cent of the power input. The other 25 per cent is dissipated by the operating friction of the various units of the equipment.

Load is controlled by another fluid coupling which connects the machine to an absorption generator (a 200-hp. constant-speed, synchronous motor). Load measurement is taken from the reaction of the cradled reducing gear which is resisted by a spring scale.

The new dynamometer is proving invaluable in testing heavy-duty military axles being mass-produced by Timken and will be converted to the testing of Timken axles for civilian motor trucks immediately following the end of the war.

THEY RESTORE LOST EFFICIENCY

HIGHLIGHTS IN THE HISTORY OF SPECTACLES

The use of lenses as an aid to eyesight started about 1260 when Roger Bacon, English scientist, discovered that a piece of curved glass produced a magnified image.

●

Astigmatism was first recognized about 1825. This marked two lenses crudely joined, is the first recorded picture of a pair of spectacles.

●

In medieval times few persons could read. With the invention of printing, a demand for spectacles was instantly created.

●

Astigmatism was first recognized about 1825. This marked the beginning of lenses specially ground to meet the needs of the individual.



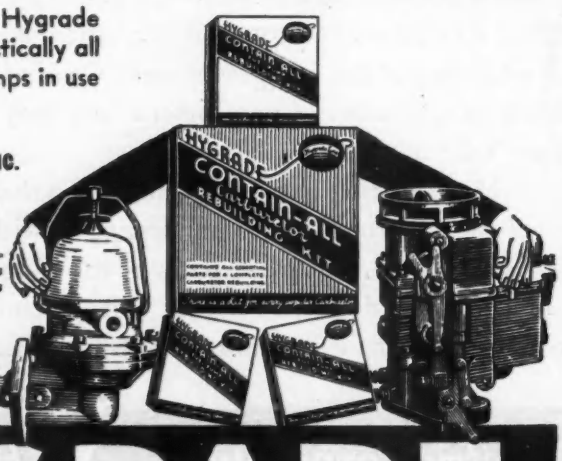
OPTICAL science has made such amazing advances during the past few years that eyeglasses not only restore impaired sight to normal but often enable the wearer to see better than ever before.

Just as eyeglasses give back to failing vision what it has lost, so Hygrade Replacement Parts—engineered to tolerances for OLD UNITS—restore Carburetors and Fuel Pumps to their original efficiency.

Available in the famous Hygrade Contain-All Kits, for practically all Carburetors and Fuel Pumps in use today.

HYGRADE PRODUCTS CO., INC.
35-35 Thirty-fifth Street
Long Island City, N. Y.

Replacement Parts for Carburetors, Fuel Pumps, Speedometers and Shock Absorbers. Fuel Lines and Fittings.



Hygrade Line
AUTOMOTIVE PRODUCTS

HYGRADE

Don't BUY Labor - SELL it!



For high achievement in the production of war materiel, the McCabe Powers Auto Body Co., of St. Louis, Mo., was presented with the Army-Navy "E". Taking part in the ceremony were, from left, John J. Powers, vice president; Col. Malcoln Elliott; Lt. Comdr. F. L. Burgess; Edward J. Powers, Jr., vice president, and Walter Drozda, employee representative



H. P. Munger, formerly with Republic Steel at Niles, Ohio, now is plant manager of two of the plants of the Van der Horst Corp. of America at Olean, N. Y.



THE SPIRO-SEAL construction that maintains true circularity under all cylinder conditions.

DO THE JOB RIGHT!

Avoid Piston Pitfalls...

Stabilization of the piston to prevent Rocking Chair Action commonly known as piston slap is an important reason why Ramco 10-Up rings control oil and blow-by longer! Exclusive Ramco constructions such as Spiro-Seal and the Ramco Inner Ring, whose primary function is piston stabilization, insure maximum compensation for worn ring grooves and elimination of piston rock.

However efficient the piston ring, the need for careful checking of piston is never eliminated. To avoid piston pitfalls, make this 3 point check-up and follow the procedures detailed in the **Free Ramco Manual** which may be had by writing: Ramsey Accessories Mfg. Corp., 871 Forest Park Blvd., St. Louis 8, Mo., In Canada, 364 Richmond St., Toronto, Ont., Factories at St. Louis, Fruitport, and in Canada, at Windsor.

RE-POWER with **RAMCO 10 up PISTON RINGS**

Special Truck and Fleet Right for Every Job . . Re-Bore or Re-Ring . . **10,000 Mile Ring and Labor Warranty**

Copyright 1944 Ramco



1 Check for worn ring grooves; Ramco multi-construction rings compensate for a maximum wear of .003". **2** Check wrist pin clearances to provide maximum efficiency and eliminate noise. **3** Check for Collapsed or worn piston skirts; Ramco-nize piston or install RAMCO PISTON SKIRT EXPANDERS, either method permanently restores piston to proper size.



AT THE DRIVERS
Fingertips



FIRST AID
for Truck and Bus
CONSERVATION

★ *The* BUFFALO
"VL" EXTINGUISHER...

is a key factor in today's conservation of rolling stock—on guard every foot of the trip against the threat of fire. Specially built to endure the abuse of constant highway vibration, the Buffalo "VL" (Vaporizing Liquid Extinguisher) can be depended on for fast action in combating any type of blaze. Fool-proof in operation—shock-proof—will not freeze at 40 below zero. Better check your present fire protection today. Replace out-of-date equipment with new, efficient Buffalo "VL" Extinguishers. Approved by the Underwriters and sold by leading automotive jobbers everywhere.

Free descriptive folder. Write Dept. E

BUFFALO FIRE APPLIANCE CORPORATION
BUFFALO 6, NEW YORK
Established 1895

BUFFALO *Better Built*
FIRE EXTINGUISHERS

Carcass Inlay of Crude Rubber Improves Synthetics

A major step has been taken in the improvement of synthetic rubber truck tires through the development of a new type of tire carcass construction, according to the United States Rubber Co. More than a quarter of a million truck tires, embodying this new and scientific principle in tire building have already been manufactured for military use.

With greatest strain and heat in truck tires usually occurring in the carcass directly under the tread of the tire, the new construction, known as the inlaid carcass, places from 10 per cent to 30 per cent of crude rubber in this critical region of the tire.

"It has been repeatedly demonstrated that where the same amount of rubber is used, the inlaid carcass clearly outperforms the conventional type of carcass," stated Dr. Sidney M. Cadwell, director of tire development. "And, where rayon cord is used, tests show that the synthetic carcass, inlaid with 30 per cent natural rubber is as good as the pre-war natural rubber cotton carcass, which was the pre-war standard construction."

In outlining the new construction, Dr. Cadwell explained that the heat and flexing-resistant crude rubber is placed directly under the tread and as far down into the carcass as the amount of rubber specified will permit. The synthetic rubber is used in the other parts of the carcass.

The inlaid carcass is the result of two years' research and development, according to Dr. Cadwell, during which time more than 11,000,000 miles of comparison tests were run against pre-war rubber tires, war tires, and synthetic tires of conventional construction.

Added miles of service may be obtained from synthetic truck tires built on the inlaid carcass principle by recapping, an important factor in maintaining wartime motor transportation.



Roy A. Fruehauf, who has been supervising war production of the Fruehauf Trailer Co., was appointed executive vice president



W. H. Stevens, assistant regional manager of Studebaker's South Bend branch, has been named regional manager of the Cleveland branch to succeed F. A. Thomas, who has retired to direct a personal business venture



Howard J. Hopkins, appointed assistant sales manager of Purolator Products, Inc., with jurisdiction over After-Market Sales in the eastern states



Henry P. Mitchell, new district manager of the Autocar branches in Virginia and southern Maryland, succeeds C. M. Hogarth, now executive vice president of the Victor Lynn Lines

Go Ahead in '44 with *Speaker*

Speaker "Super Quality" Tire Repair Units

SS-5" Round



10x12" Truck Size

S-10

Speaker "Match Patch" Tube Vulcanizing Units

No. R-50 "Match Patch" Service Station Group Package



"4-Way Sealed"

"GU" Giant Universal "Match Patch"



For Large Repairs

Speaker "Match Patch" Complete Vulcanizing Outfits

For Repair Shops and Garages



No. VA-1

No. V-2

No. T-S

Motorists' Emergency Kit

More Important Than Ever . . . All Tube Repairs *MUST* be Vulcanized!

THE *Leading* AND *Complete* LINE OF SAFETY VULCANIZING TUBE and TIRE-REPAIR

No. S5 Speaker *Super-Quality* Tire Repair Units . . . six in package. Other sizes: 7" Sidewall, 7" 9" 8½ x 11" and 10 x 12" . . . all "packaged for protection."



Safe Tire Repairs . . .

ANY TIME, ANYWHERE *with* NEW SPEAKER "SHOP-*and*-ROAD" *Packages of "Super Quality" Tire Repairs*

In your repair shop, or for emergency repairs on the road, the new Speaker "Super Quality" Self-Vulcanizing Tire Repairs are "tops" . . . ready NOW to help you lick the serious tire shortage problem. Not only are they the best tire repair, but also are packaged best, for protection right up to time of use, and for convenience in handling and storing.

These are more than mere "blow-out shoes" for casings! "Built like a tire," with tough, crisscross cord construction, FlexForm molded "feather edge," cushion-gum laminated for automatic self-vulcanizing by road heat, SPEAKER "Super Quality" Tire Repairs are adding thousands of extra miles to tires that would have "given up" long ago.

Anyone can apply them, any time, anywhere . . . in shop or alongside the road . . . no special equipment required . . . they won't shift, slip, buckle, or cause undue wear on tube.

SPEAK TO YOUR JOBBER about SPEAKER!

Speaker jobbers are serving thousands of fleet owners with "SUPER QUALITY" Tire Repair Units, including the large truck sizes (8½ x 11" and 10 x 12" units) . . . and with Speaker "MATCH PATCH" Tube Vulcanizing Units and Equipment. Now, more than ever, Speaker units are needed for crude as well as synthetic tire and tube repairs . . . to conserve rubber and increase tire mileage. Order from your nearest jobber, now.



SPEAKER QUALITY

J. W. SPEAKER CORPORATION

3059 NORTH WEIL STREET
MILWAUKEE 12, WISCONSIN

NEW PRODUCTS

(CONTINUED FROM PAGE 91)

Known as a "utility tank" and designed for a wide variety of uses, the tank is divided into three compartments which are basically designed for degreasing, rinsing and pickling. However, it also can be used for plating, metal coloring, fluxing, oiling, lacquering, dip painting, rust removing, etc.



To operate the tank, it is necessary only to fill the compartments and plug the flexible extension cord into any 110- or 220-volt circuit. Compartment No. 1 is furnished with a standard heating unit for hot alkaline degreasing compounds, compartment No. 2 is for cold rinsing, and compartment No. 3 is lined with Plast-O-Ply, an alkaline acid resistant coating.

An insulating wall between compartments 1 and 2 prevents heat loss from compartment 1 when compartment 2 is used without heat. All compartments are equipped with bottom and overflow outlets. Heating units are equipped with automatic temperature control.

The tank is integral with a welded steel frame, equipped with swivel casters. Overall size of standard models is 20x56x36 in., although special sizes are available. In standard models, compartments are made to accommodate 12-in. round or square baskets.

Use Free Postcard For More Details.

P199. Fire Extinguisher Bracket

A new bracket is being manufactured by Walter Kidde & Co., Inc., to hold carbon dioxide fire extinguishers securely on running boards.

Strongly constructed of stamped steel, the bracket contains bolt holes for base or side mounting. An adjustable quick-release latch clamps the extinguished firmly in place.



The bracket is made to accommodate two of the most popular sizes. It is about half as heavy as older models, and will replace four different malleable iron brackets.

Use Free Postcard For More Details.

P200. New Oil Reclaimer

A new line of YM "Robot" oil refiners, designed to clean lubricating oil with continuous and automatic operation, has been announced by the Youngstown Miller Co., Sandusky, Ohio.

This machine, which is said to add

(TURN TO PAGE 210, PLEASE)

MILEY *moves fast!*

In peacetime, MILEY brake products were dealers' fastest moving lines . . . and today they're the fastest moving too because MILEY gets them out faster! That means that MILEY brake materials, in spite of full production for war work, are getting to *essential* cars and trucks too!

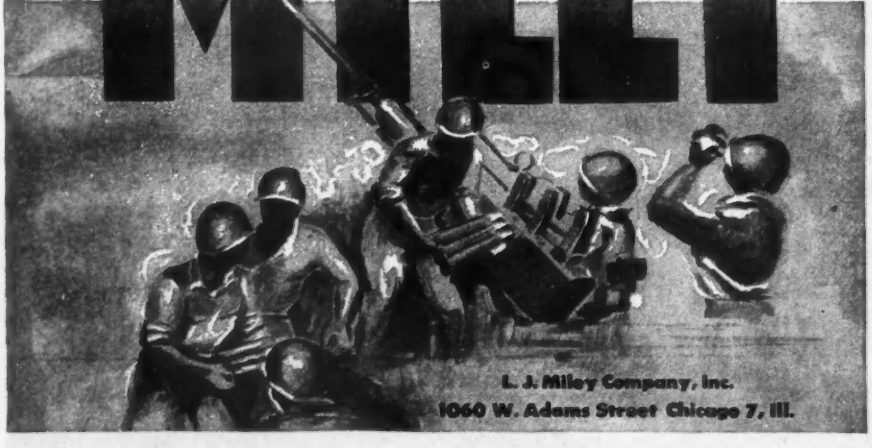
MILEY knew that commercial cars and fleets were going to be as important as the most critical war materials, MILEY added new plants and equipment to keep *both* production lines rolling on schedule! Today when you want fast *service* and better *quality*, specify MILEY brake linings, lined brake shoes, clutch facings, and brake materials.

Ask for Miley Black Gold *and Miley* Ebonite — *standards of better brake lining as well as better service.*

"The Brake People"

BRAKE LINING · BRAKE SHOES · BRAKE PARTS

MILEY



L. J. Miley Company, Inc.
1060 W. Adams Street Chicago 7, Ill.

4 OF OUR ARMED SERVICES' LARGEST TRUCKS—

all equipped with

CLEVELAND PNEUMATIC SHOCK ABSORBERS



FEDERAL



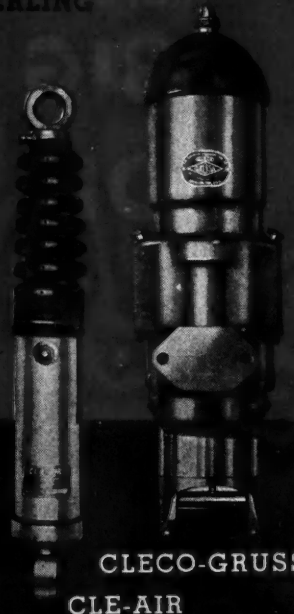
REO



STERLING



BIEDERMAN



CLECO-GRUSS

CLE-AIR

CLECO-GRUSS—These shock absorbers are used on the trucks illustrated. They are pneumatic (inflate like a tire), and of the extra heavy duty type.

CLE-AIR—These commercial units for buses, trucks and trailers are hydraulic-pneumatic, identical in operating principle with our famous Aerol landing gear.

THE CLEVELAND PNEUMATIC TOOL COMPANY

AUTOMOTIVE DIVISION * CLEVELAND 5, OHIO

NEW PRODUCTS

(CONTINUED FROM PAGE 208)

new efficiency, convenience and economy to the YM process of cleaning oil, utilizes common refinery earths available on the open market. It is capable of removing fuel dilution, acids, solid and colloidal carbon, dirt and similar matter; also, it can restore oil emulisified by water. When piston varnish and sludge deposits are present, the manufacturer offers a guarantee on removing them and preventing recurrence.

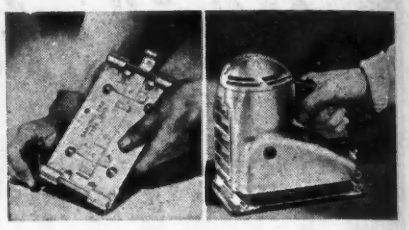
All models are designed to restore used oils to substantially the same fire, flash, viscosity, color, neutralization number and precipitation number as the new parent oil.

Use Free Postcard For More Details.

P201. New Portable Sander

An outstanding feature of this new electric portable sander is the flexible sanding pad which detaches from the machine, simply by pulling out a latch. Several pads loaded with abrasives can be kept near work for quick exchange. When different grades of abrasives are used on a job, additional pads loaded with coarse and fine grits can be switched when necessary, thus avoiding the necessity for operator to stop work and reload.

This sander made by Sterling Tool Products Co., Chicago, is specially designed to cover the entire range of abrading from coarse sanding to lapping and finishing. It provides fast, precise, uniform cutting on wood, metal and plastic. The sanding pad is flexible and will conform to convex or concave surfaces of moderate



curvature. Special pads for unusual contour sanding or rubbing are also available.

Another feature is the non-vibrating action while the sanding pad is moving at a speed of 4500 oscillations per minute. This smooth performance permits the operator to use it constantly without tiring, and without difficulty from any position.

Use Free Postcard For More Details.

P202. New Metallic Flux

The Metallizing Co., of America has developed a new low temperature metallic flux that is said to overcome the disadvantages characteristic of certain types of soft soldering compounds.

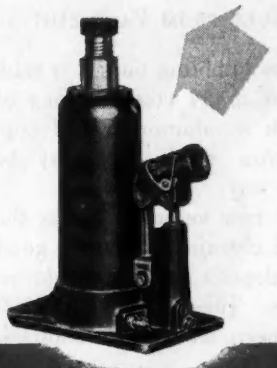
This product, known as Mogul Flux, has a lower melting temperature than soft silver solder on initial heats and, once activated, will work on temperatures slightly higher than 60/40 solder. This cuts down warpage, material hardness changes and stresses.

The manufacturer states that it is faster than other solders used for this class of work because it is compounded of finely ground pure metals, balanced to attain high tensile strength and surface adherence. Its low surface tension permits the tinning of close tolerances, such as thread fits,

(TURN TO PAGE 214, PLEASE)



THE RAP



● A jack goes to work *head first.* The whole load is concentrated right on its cap. Here is where jack dependability starts. And right here is where Walker "know-how" begins building into Series 900 portable hydraulics all the strength, ruggedness and stamina a tool box jack needs to "take it."

Cap and extension screw are one piece to prevent loosening or loss. Radial flutes insure a firm, skid-proof grip on the load. Coarse threading provides quick adjustment and, under load, the screw is self-locking.

This two-in-one part is specially forged from tough, high carbon steel. Heat treating increases its strength 45%. Sand blasting produces a smooth, long-wearing surface relieved of stresses which eventually would weaken it. Finally, a rust preventive guards it against deterioration. The result is a sturdy, break-proof part that will stand up under hard use and great abuse.

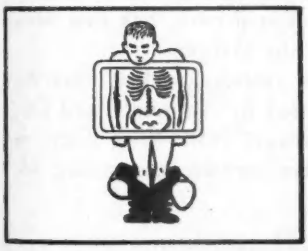
This same thoroughness of design . . . this same careful selection of materials . . . this same skillful production technique—all go into the creation and production of *every* part. It is Walker "know-how"—the reason Walker leads in jacks.

WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WISC.

Also Makers of Exhaust Silencers and Electric Lifts

IT'S WALKER "KNOW-HOW"

THAT GIVES SERIES 900 THEIR PLUS-DURABILITY



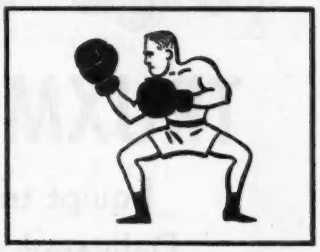
Walker "X-ray-inspects" every malleable iron BASE to be sure only perfect castings ever get into Walker jacks.



Walker drills out the cold-rolled steel RAM from the TOP only, leaving the lower end solid to withstand bending stresses where they are greatest.



Walker provides extra handle-grip length in the strong, malleable HANDLE SOCKET for durability — and to avoid lost handle motion.



Walker CUP LEATHERS are specially impregnated to withstand DOUBLE the oil pressure ever used in these jacks.

LEADS IN JACKS

NEW PRODUCTS

(CONTINUED FROM PAGE 210)

and prevents bubbling out. It is said, further, that many combinations of metals, such as aluminum and copper, cast iron, steel, etc., may be treated this way.

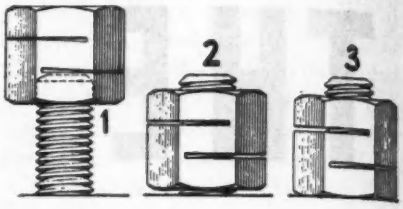
Due to a new vehicle used as the tinning and cleaning agents, a good density of deposit may be made on most metals. Tensile pulls of 2500 p.s.i. have been made, it is claimed, without the metal deposit separating from the surface on both ferrous and non-ferrous metals.

Available only in one lb. sealed metal cans.

Use Free Postcard For More Details.

P203. New Lock Nut

The Beach Precision Parts Co., Harrison, N. J., has developed a new type of elastic lock nut. In its construction, the nut is transversely slitted and then distorted by diagonal pressure. The distortion can be noticed in the upper left and lower



right sections of the nut in Fig. 1 of the accompanying illustration.

When started on a bolt or stud, about two whole threads can be run up easily by hand, as shown at Fig. 1. As the nut is turned farther, it exerts a clinging action on the bolt threads, opening the slits, as shown at Fig. 2.

When the nut is firmly tightened, as shown at Fig. 3, the lower slit closes slightly and the upper slit may open slightly, exerting pressure at different points on the thread. A combination of distortions exerts pressure in different directions, holding the nut firmly in place despite vibration.

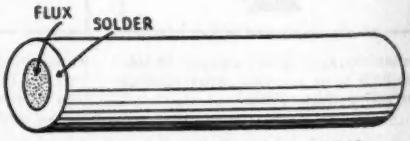
The Cling-Nut is reversible, removable, and may be re-used repeatedly. It is available in different sizes and metals.

Use Free Postcard For More Details.

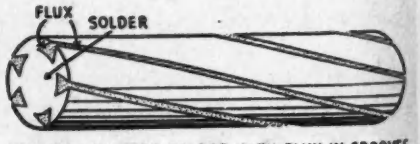
P204. New Type Wire Solder

A new type of fluxed wire solder, which contains flux in longitudinal grooves on the surface rather than in the conventional core, has just been placed on the market.

The new material, called Fluxrite, and marketed by National Lead Co., 111 Broadway, New York City, is said to have several outstanding ad-



CONVENTIONAL FLUX-CORE WIRE SOLDER

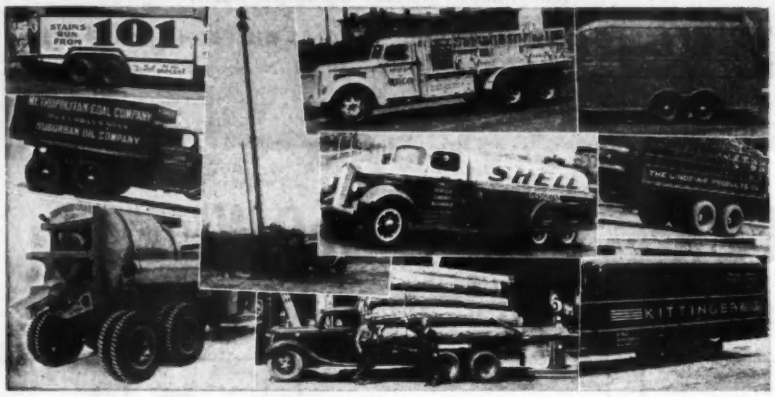


NEW TYPE OF WIRE SOLDER WITH FLUX IN GROOVES

vantages. Since the flux in the new product is outside rather than inside, it liquefies and flows onto the work before the solder melts. This insures

(TURN TO PAGE 216, PLEASE)

POSTWAR ECONOMY AVAILABLE NOW



TRUXMORE 3RD AXLE

Equipt trucks have ALWAYS
Delivered the goods at LOWEST
COST PER TON MILE

EQUIP YOUR PRESENT OR NEW TRUCKS
(YOU MAY QUALIFY) WITH TRUXMORE'S

NATIONWIDE SALES AND SERVICE
THRU TRUCKSTELL DISTRIBUTORS

Write for BULLETIN #34

"A TRUCK SHOULD BE A MONEY MAKING MACHINE"

1791 FILLMORE AVE.
TRUCK EQUIPMENT CO. INC.
BUFFALO, N.Y.

8 OUT OF 13

WINNERS OF THE 1943 BUS TRANSPORTATION MAINTENANCE AWARDS USED PACKARD CABLE



. . . And *year after year* Packard cable figures prominently in these awards for outstanding efficiency in bus maintenance.

Behind this record of consistent dependability stands 40 years' experience in the design, engineering and manufacture of automotive cable. Today, Packard cable serves on tanks, ships, planes, trucks, buses and automobiles teamed together in the drive for Victory. Thus does Packard's record in the 1943 Awards become more than a tribute for excellence—it is reassuring proof of peak efficiency in the cable that "carries the current" in the vital trucks and buses of the highway fleets.

SPEED VICTORY—BUY WAR BONDS

YOU'RE RIGHT WITH *Packard* CABLE

Packard
REG. U.S. PAT. OFF. TRADE MARK

PACKARD ELECTRIC DIVISION
GENERAL MOTORS CORPORATION
WARREN, OHIO

FOREMOST BUILDER OF AUTOMOTIVE AND AVIATION WIRING

NEW PRODUCTS

(CONTINUED FROM PAGE 214)

thorough and complete fluxing and results in stronger and better solder joins.

In addition to pre-fluxing, the new solder also is said to guarantee an unbroken flow of flux. Inasmuch as it has more than one flux-filled groove, there is a continuous flow at all times.

An additional advantage claimed comes from the fact that the flux supply being outside the wire, is always visible to the user and can be checked quickly and readily.

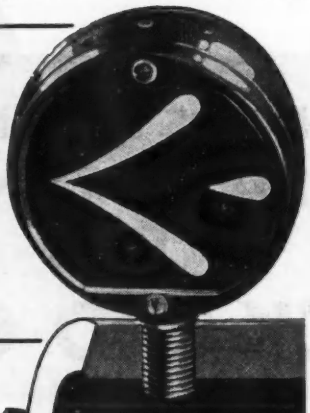
The new product, which contains a recently developed special flux, comes in the same diameters as regular cored solder. It is available in two compositions designated as Red Stripe and Green Stripe. These designations refer to the color of the flux, which has been specially dyed in each case for easy identification.

Use Free Postcard For More Details.

before you buy a Directional Signal

TELEOPTIC says: *Ask This Question...*

"Can it be seen from all angles day or night at 125 feet?"



The only answer is TELEOPTIC.

25 years of building to one specification—*protection* rather than price—has developed "the directional signal approved by *all* states requiring directional signal lights!"

Guaranteed against all defects if not tampered with. Bulbs and flashers guaranteed by manufacturers. Ground glass lenses. 180° visibility. Shakeproof lock washers—integral construction. Pedestal screws on—less chance of shear. Easily installed.

A limited number of sets available without priorities for trucks not previously equipped. Write for literature.

3 TYPES OF SWITCH CONTROLS



Teleoptic Finger-flip control switch on gear shift lever.



Teleoptic Instrument panel control switch with, or without, pilot light.



Teleoptic Steering column control switch.



The TELEOPTIC Company

712 Marquette St. Racine, Wisconsin

P205. Oil Remover for Hands

The problem of finding a clean, convenient, effective, and sanitary way of removing oil and grease from the hands and arms, is said to be satisfactorily solved by a product called Flix, developed by the Waverly Petroleum Products Co., of Philadelphia, and Refiners Lubricating Co., of New York.



Flix is a hand-sized, semi-quilted pad containing an effective absorbent substance that quickly removes all types of oils from the skin, leaving it clean and dry.

The manufacturers claim many advantages for it, such as: It helps prevent skin diseases, it is economical, it is safe (due to the fact that it will not burn and has no loose ends to catch in machinery), it is sanitary, it is useful in removing oil from machine parts preparatory to painting.

Use Free Postcard For More Details.

END

(Please resume your reading on P. 92)

Chicago Driver Shortage Loses 3802 Truck Days in December

The recent ODT survey conducted among Chicago common carriers disclosed that 3802 truck days were lost during December due to driver shortage. Detailed results of the survey were sent to the state Selective Service director. Recently, he and the Wisconsin draft director urged draft boards to give serious consideration to the essential status of carrier employes to prevent a breakdown of the nation's transportation system.

C. P. Bowers Gets WPB Appointment

The War Production Board announced the appointment of C. P. Bowers, president of the Bowers Battery & Spark Plug Co. of Reading, Pa., as a member of the Port Oxford Cedar Industry Advisory Committee Division of the Lumber and Lumber Products Division.

Neil C. Hurley has been elected chairman of the directors of the Independent Pneumatic Tool Co. and Neil C. Hurley, Jr., president.

MR. 6x6'S PERSONAL PHYSICIAN!

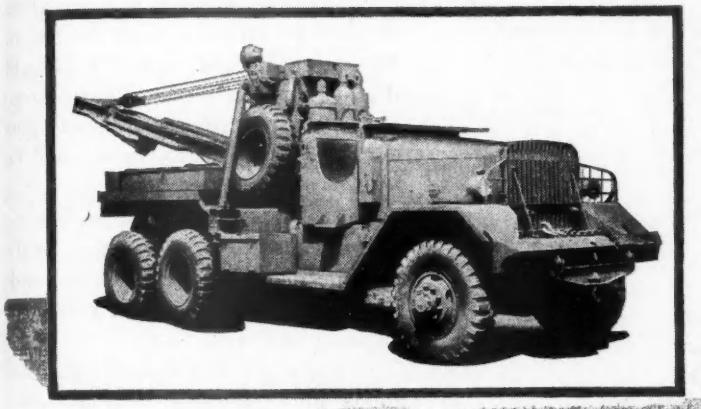
● When a soldier's job is to keep Uncle Sam's motorized equipment rolling through the battle zones, he learns all the practical know-how there is in the book — plus a lot more that can't be put into books. It's an assignment that carries life-or-death importance.

Some great day (soon, we hope) these young men will be back seeking to put their knowledge and experience to peacetime use. Wise and fortunate will be the employers who make the most of them!

Our reputation today rests with Army men, and we will gladly rest our *postwar* case on their expert judgment of Ward LaFrance trucks.

1 1 1

Ward LaFrance's wartime assignment includes heavy wreckers for tank-recovery work, as well as fire apparatus for Army, Navy, and essential civilian needs. Peacetime manufacturers of fire apparatus, commercial dump trucks, plows, cranes, gas and Diesel over-the-road tractors.



WARD LaFRANCE

TRUCK DIVISION, GREAT AMERICAN INDUSTRIES, INC.

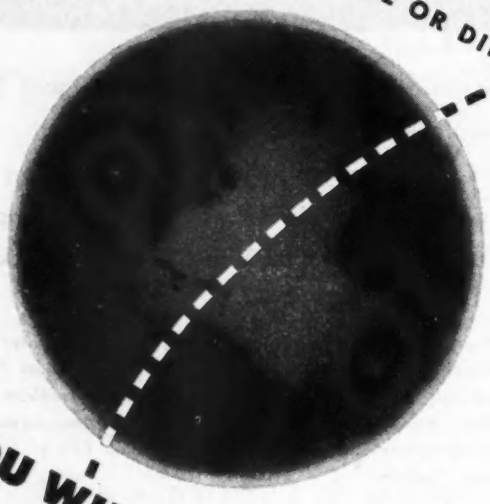
ELMIRA GAI **NEW YORK**



© 1944 G. A. I., Inc., Meriden, Conn.

WHEREVER THERE ARE ENGINES

GASOLINE OR DIESEL



YOU WILL FIND

MICHIANA OIL FILTERS

Ships for every service of the Army, Navy or Merchant Marine—trucks, construction machinery, transportation and motorized equipment of all kinds, serving all over the globe have MICHIANA Oil Filters for the protection of the engines.

In total capacity well over a million horsepower—in unit capacities to 3266 h.p., MICHIANA Filters are establishing new records of reliability and efficiency.

Because of the importance of this work, it has been impossible to supply at all times, filters for civilian use, however essential. Our greater experience in meeting the strict specifications of the Army and Navy,—our enlarged facilities and organization assure you better filtering performance and a more adequate supply of MICHIANA Filters when War needs have been filled.

To appreciate the service filters must meet is to recognize the care with which they should be chosen. For longer engine life and lower oil costs—specify MICHIANA Filters. . . . MICHIANA PRODUCTS CORPORATION, Michigan City, Indiana.



Typical MICHIANA Oil Filter—can be serviced either with Replaceable Cartridge Element or furnished with Repackable type Element.

ARMY E NAVY

MICHIANA OIL FILTERS

Army Rations New Truck-Size Tires

A shortage of truck-size tires and the heavily increased demands for new tires for Army trucks in combat zones is resulting in stringent rationing this year of large tires for Army vehicles used in the United States, the War Department has announced.

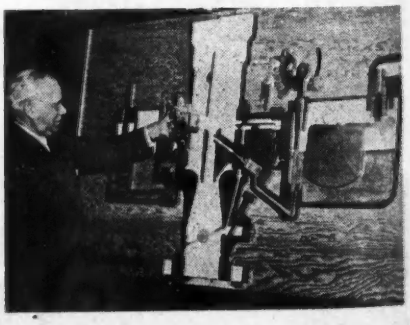
Few, if any, new truck-size tires are being issued for domestic use by the Army on aircraft, artillery and armored automotive equipment and on trucks.

The Maintenance Division of the Army Service Forces will recap and service tires on Army vehicles in this country. Instructions will be given in correct inflation and drivers of Army equipment will be taught thorough inspection and careful operation, so that present tires will give long service and replacement will be kept to a minimum.

The shortage of tires is due to heavy demands on production facilities, the scarcity of skilled tire-builders and to the demands for rubber in invasion weapons.

In order that the flow of vital war goods may continue without interruption, it is necessary that commercial truck and bus companies not be further rationed as to tires, the War Department emphasized.

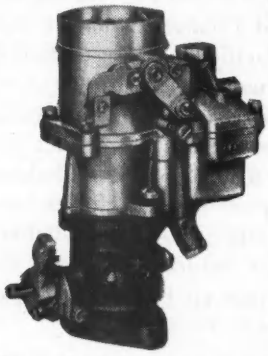
The Maintenance Division is working with other Army Service Forces agencies in preparing posters, pamphlets and similar elements in an educational campaign designed to conserve rubber. Drivers are urged to avoid speeding, to watch correct tire inflation, and to handle Army vehicles conservatively.



Army's Jeep jockeys get a good picture of what that vehicle's carburetor is like, what might make it get out of order and how to take care of it. Dean A. Walters, Willys-Overland's service director, holds an actual carburetor to show the relative size of what is said to be the world's largest working model



Uncle Sam's Home Front "Power Wagons" Have Plenty of Guts, Too!



The Zenith* Carburetor is a member of "The Invisible Crew"—precision equipment which more than 30 Bendix plants are speeding to world battle fronts.

WHETHER it's in Sicily, the Solomons or Seattle, the four-wheeled engines of war, armed or unarmed, *must* perform heroic jobs! It takes dependability, stamina and the *will to win* to do this . . . qualities of Victory to which Zenith* Carburetors are contributing mightily.

Here at home, economical maintenance of essential civilian transportation is keeping 'em rolling day and night. And this, in large part, is attributable to the expert care trucks are getting at Zenith Carburetor Authorized Service Stations. Trained men, the right tools, precision equipment for inspecting carburetors—these are available to provide specialized carburetor service *that never lets you down.*

**Trademark of Bendix Aviation Corporation*

ZENITH CARBURETOR AUTHORIZED SERVICE

LOOK FOR THIS SIGN
It is your assurance of fine workmanship, quality repair parts and lasting satisfaction.

THE INVISIBLE CREW
Precision Equipment by
Bendix Aviation Corporation

ZENITH CARBURETOR DIVISION, Detroit, Michigan



How to Expedite Inspection of Worn Parts Before Repair

If delays and priorities make it difficult to obtain replacements, wise economy decrees that worn bus and truck parts now on hand be repaired, reconditioned or overhauled.

To simplify inspection . . . permit subsequent repair and reconditioning to proceed RAPIDLY . . . FIRST step should be thorough removal of all muck, grease and oil. You can expedite this work by using specialized Oakite materials that quickly prepare surfaces for easier checking and handling by mechanics and help you finish the job sooner.



Illustrated 36-page manual gives FULL details. Write for your copy TODAY . . . it's FREE!

OAKITE PRODUCTS, INC., 26D Thames Street, NEW YORK 6, N. Y.

Technical Service Representatives in All Principal Cities of the United States and Canada

OAKITE MATERIALS METHODS SERVICE — Buy Bonds for Victory — **CLEANING** FOR EVERY CLEANING REQUIREMENT



Also, it eliminates leaks on service station equipment, pumps, dispensing equipment, and at all thread and gasket connections.

Mixed with water, Key Graphite Paste is ready to use. Has large coverage; won't spoil in the can. Keeps threads "alive"; gaskets can be re-used many times.

Key Graphite Paste is an effective "trouble shooter" for your mechanics to have handy.

Send for free sample today and test it for yourself.

KEY COMPANY • EAST ST. LOUIS, ILLINOIS

2612 McCASLAND AVENUE

CCJ NEWSCAST

(CONTINUED FROM PAGE 70)

Colgate Heads Tyson

John K. Colgate has been elected president of Tyson Bearing Corp., Masillon, O., succeeding Ralph Maxson, who resigned recently.

Mr. Colgate has been vice president of Tyson for three years.



J. C. Hammond, left, for the past six years with National Battery Co., has become vice president in charge of sales of the Franklin Transformer Co. Minneapolis, Minn. R. L. Anderson, in charge of Franklin's Army and Navy development work, has been promoted to chief engineer and will supervise research for post-war manufacture of welders, battery chargers, etc.

Lindsay Structure Trailer Ready for Post-War Period

Pointer-Willamette Co., of Portland, Seattle, and Billings, has been granted a franchise for the manufacture of Lindsay Structure trailers in the Pacific Northwest, according to an announcement by Owen S. Lindsay, of Lindsay & Lindsay, Chicago.

This is the first trailer franchise granted by Lindsay & Lindsay under their post war plan for the manufacture and national distribution of Lindsay Structure trailers, including

(TURN TO PAGE 308, PLEASE)

LIPE

HEAVY-DUTY *Clutches*

Insure Maximum Clutch Life

★ 20 ball-hinged levers for uniform pressure, smooth engagements, easy disengagements.
★ Parallel disc contact. ★ No localized burning. ★ Long facing life.
★ Warp-resisting pressure plate.
★ Rigid cast iron construction. ★ Forced internal air cooling.

Write for Full Information

Lipe-Rollway Corporation
Syracuse, N. Y., U.S.A.

BOYS, LET'S MAKE EVERY JOB A REAL *VICTORY* JOB!



KESTER Cored Solders

WILL HELP KEEP 'EM RUNNING

● Alert fleet operators know how vitally important Kester Cored Solders are for *better* truck maintenance. It is their first choice for all soldering jobs because once a job is done with Kester it *stays put*. Bending, shock, or constant vibration has little effect. Even the contraction and expansion of temperature extremes will not affect a Kester repair job.

● Kester Acid-Core Solder is ideally suited to all general maintenance work . . . including radiator repairs. The convenient, self-contained flux does away entirely with guesswork, makes soldering easier, faster, and sure.

● Kester Rosin-Core Solder is especially designed for electrical work. It has a patented, plastic rosin flux that is corrosion proof, non-conductive, and will not injure insulating material. When you use Kester Rosin-Core Solder, you seal the circuit against further trouble for the life of the truck.

● Standardize on Kester Cored Solders in your shop. Your men will do a better maintenance job . . . and in less time. Order from your wholesaler, and *state your priority*.

Finest Quality FOR 45 YEARS 1899-1944 KESTER SOLDER

☆ BUY WAR BONDS ☆

KESTER SOLDER COMPANY
4205 Wrightwood Avenue, Chicago 39, Ill.
Eastern Plant: Newark, N.J.
Canadian Plant: Brantford, Ont.



KESTER *Cored Solders*
FOR EVERY AUTOMOTIVE USE

A good Name is as important



...for a bolt as for a cigaret

Radio announcers and war correspondents frequently allow the name of a soft drink or a cigaret "made in America" to creep into their war-front stories of fighting and heroism. Naturally they do not know about much except the thrilling personal acts of soldiers, sailors and marines. They do not mention names of famous products that make modern war possible—such as famous "trade-mark" names of bearings, spark plugs, valves, or Lamson 1035 Cap Screws. But these names play far more dramatic and important parts in the war drama than those that *are* mentioned. Imagine an airplane, a tank, a ship or a gun being made without the famous products mentioned above!

Lamson 1035 Cap Screws just like those you've always used are in service on every fighting front, doing their part of the job that must be done. To protect our distributors the head of every cap screw is marked "LS 1035" which represents our good name.

THE LAMSON & SESSIONS COMPANY • CLEVELAND 2, OHIO
General Offices: 1971 West 85th Street

LAMSON

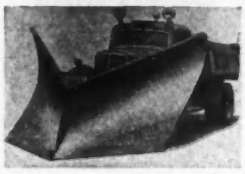
BAKER SNOW PLOWS

MAINTAIN TRUCK SCHEDULES WHEN THE DRIFTS ARE DEEP!

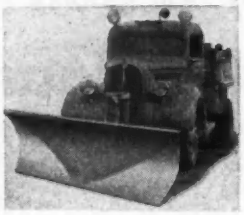
Prompt deliveries after heavy snowfalls are noticed and remembered by industry, as well as the consuming public. Bus patrons likewise appreciate minimum delays. It pays to be prepared — with Baker Snow Plows. Thousands are in use by truck fleet and bus operators. They are properly designed and ruggedly constructed for long time, abusive service.

All Types for All Trucks

V-TYPE TRUCK PLOWS — Four models for trucks from 1½ tons upward. Moldboards are curved to convey snow upward and off the top outer edge onto the shoulder of the road. Wear-resistant adjustable runners support plow on inside so that weight of snow does not bear on truck, which only guides and pushes.



REVERSIBLE TRIPPING BLADE TRUCK PLOWS— Eight models. Clear paths 6½ to 9 feet. All models are equipped with the Baker tripping blade: made in sections which deflect on striking a fixed object, and react instantly when object is passed. All plows mounted on easily installed lift and push frames.



ONE-WAY LANDSIDE PLOWS — Clear paths 7½ to 9 ft. Seven models: four with sectional tripping blades; three with rigid blades. Hand hydraulic depth adjustment. Moldboard shaped to discharge snow onto shoulder well clear of roadway. Deflector extensions are available.



Write for Catalog 829 and attractively illustrated bulletin. "Snow—Friend of the Enemy". How soon you can procure a Baker Snow Plow can not now be predicted; *but* it will pay you to get the facts now.



BAKER MFG. CO.

571 Stanford Ave., Springfield, Ill.

BAKER TRUCK & TRACTOR SNOW PLOWS

CCJ NEWSCAST

(CONTINUED FROM PAGE 306)

a new light-weight trailer which has been under development and test for the past four years. The trailers will be manufactured in both steel and aluminum and incorporate a number of new design features Lindsay engineers worked out for trailers built for the Army.

The addition of trailers to the Lindsay Structure line is the second step in the company's post-war plans for the transportation field. A national distribution set-up for Lindsay Structure truck bodies has just recently been completed, with provision made for warehousing stock in key locations throughout the country.



John W. Anderson recently elected to serve a third consecutive term as president of the Motor & Equipment Manufacturers Association

Fruehauf Service Facilities in Columbus Expanded

R. J. MacEwan, Columbus branch manager of the Fruehauf Trailer Co., announces the acquisition of 10,000 additional square feet in the service building now occupied by the Fruehauf company at 320 Fletcher St. In addition, the Columbus branch has also obtained a lease on a lot adjacent to the service building which will be used for the storing of trailers.

This expansion, according to Mr. MacEwan, has been made necessary to meet the demands for service and sales facilities in Central Ohio and West Virginia territories covered by the Columbus Fruehauf branch. Since May 1, 1943, the Columbus branch has been operating two shifts of mechanics.



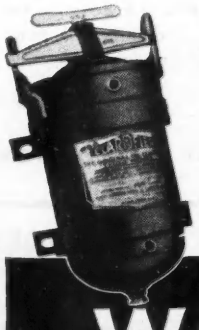
Malcolm S. Adler, project engineer of the S. K. Wellman Co., Cleveland, has been appointed automotive division manager, succeeding J. H. Dedrick, Jr., now engaged in special powder metallurgy for Wellman

(TURN TO PAGE 310, PLEASE)



TO KEEP OIL CLEANER, LONGER

WGB Clarofiers are adopted by manufacturers, specified for fleets. Leading builders of gas and Diesel engines install WGB Clarofiers as standard equipment . . . and countless cost-wise fleet operators have specified them for their vehicles. Check their three reasons. (1) They keep lubricating oil amber-clear for longer periods. (2) WGB replacement cartridges are inexpensive, and can easily be installed, without tools. (3) WGB Clarofiers are sturdy, simple, trouble-free—built for heavy-duty jobs. Specify WGB Oil Clarofiers for substantial savings in maintenance and operating costs.



Send for your free copy of book describing WGB oil clarofying at work in gas and Diesel engines.

WGB

OIL CLARIFIER, INC.

KINGSTON, N. Y.

LET'S KEEP SEDIMENT OUT OF LUBRICATION

KEEPING TRUCKS IN CONDITION



They are vital to the war effort; keep them rolling with a minimum of check-up time.

Jones Portable

TACHOMETER

Makes it possible to give your trucks more frequent scientific check-ups with less help, and less delay.

Portable—saves time; makes inspections quickly and inexpensively; takes accurate engine readings instantly either from front end of crankshaft, or against generator end or other revolving shafts without the use of a stop watch; makes it possible to adjust governors, carburetors, and do other trouble-shooting without the necessity of road tests.

SPEED RANGES:

Single-range 100-1200, 200-2400, 300-3600, 400-4800, and up to 1000-10000 R.P.M.
Multiple-range: 300-12000 and 300-15000 R.P.M.

JONES TACHOMETERS ARE USED BY:

Atlantic Refining Co.
Autocar Company
Brockway Trucks
Dairyman's League
International Harvester Trucks
Keeshin Motor Express
Mack Trucks
Shell Union Oil Corp.
Socony-Vacuum Oil Co.
Standard Oil Co. of New Jersey
Standard Oil Co. of La.
The White Company
Tide Water Associated Oil Co.
U. S. Army Air Corps
U. S. Navy

SPECIFICATIONS: Centrifugal movement, continuous indicating type; lightweight, durable, ball-bearing mechanism. Rigid calibration and inspection. Low initial and maintenance costs.



Equipped with durable carrying case for protection and convenience.

JONES MOTROLA SALES COMPANY

438 Fairfield Ave.
Stamford, Conn.

WHAT DO YOU KNOW

ABOUT THE NEW "CAVALON"*

SYNTHETIC RESIN COATINGS IN THE FORM OF *DU PONT P. C. "CAVALON"** HAVE COME TO *STAY* IN THE FIELD OF HIGH-GRADE UPHOLSTERY FABRICS

WAR PRODUCTION BOARD regulations prohibiting the use of rubber in any form for coated fabric upholstery materials opened the way for Du Pont chemists to build a new type of seat covering. It's known as P. C. "Cavalon"—a plastic coated upholstery fabric.

Today, the success of this new product seems to prove that synthetic resin coatings are in the field of high-grade upholstery fabrics *to stay*. P. C. "Cavalon" has many superior qualities. Specifically, it offers these 10 advantages:

1. **Resistance to general** abrasive wear.
2. **Resistance to edge wear** and edge cracking along beading and turned edges where material is sewn.
3. **Resistance to peeling** and cracking of the coating when seat is constantly flexed.
4. **Resistance to cracking** at zero temperatures.
5. **Freedom from exudation** and tackiness when subjected to elevated temperatures.
6. **Resistance to fading** of color.
7. **Good aging characteristics** over a long period of time.
8. **Sufficient strength** to prevent tearing and puncturing.
9. **Freedom from crocking** and color bleeding.
10. **Sanitation,** non-absorbence, and easy cleaning with soap and water.

Wartime necessity caused the development of P. C. "Cavalon." Military and essential civilian use is testing and proving its advantages. Regular P. C. "Cavalon" meets Federal Specification E-KK-L136A, Type 3, Class A & B. A special fire resistant type of P. C. "Cavalon" meets Army Air Corps Specification 12026A; Bureau of Ships ad interim Specification 34L-13 (int); U.S. Army Ordnance Dept. AXS-992 (Revision#1) and Maritime Commission Specification MN245.

P. C. "Cavalon" is proving under fire these advantages that mark it as a fabric to be watched with future upholstery requirements well in mind. E. I. du Pont de Nemours & Co. (Inc.), "Fabrikoid" Division, Empire State Building, New York 1, N. Y.

P. C. "CAVALON" *is Du Pont's trade mark for its plastic coated fabric.*

P. C. DU PONT "CAVALON"

plastic coated fabric

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*





On Ford V-8
Distributor Housings
And 3-Unit Type Voltage Regulators

★ *QUALITY WORKMANSHIP*

Write for full details on our Exchange Program

RETURN TO YOUR JOBBER OR TO US the above parts to be reconditioned and help your Government salvage critical materials in the interest of maintaining essential transportation during the emergency.

REBUILDING DIVISION

C. E. NIEHOFF & CO. 4925 LAWRENCE AVE. CHICAGO, ILL.
BRANCH: 1342 S. Flower St., Los Angeles, Cal.

Be 100% With 10% • Buy War Bonds

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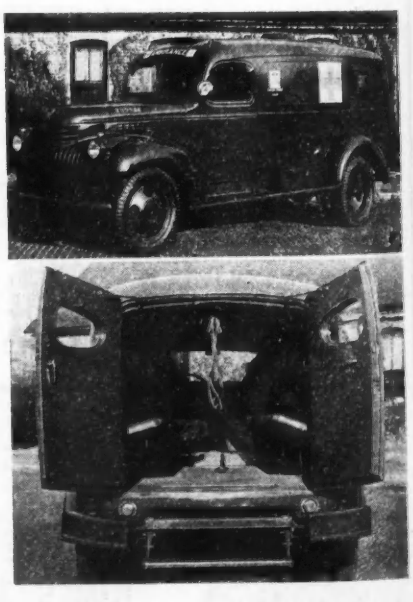
(CONTINUED FROM PAGE 308)

40,000 Drivers Awarded 7 Cents an Hour Increase

Stabilizing wage rates for over-the-road truck drivers, the National War Labor Board has directed increases of 7 cents in hourly rates and three-tenths of 1 cent in mileage rates for 40,000 mid-western truck drivers. The increase includes the amount due under the Little Steel formula and payment in lieu of overtime and expenses while away from home.

The board's unanimous decision to award the increases was similar to the action of its predecessor, the National Defense Mediation Board, which in January, 1942, awarded increases to these same drivers following an award by the President's Emergency Board to railroad workers. The drivers are members of some 300 locals of the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America, AFL.

The increases awarded the truck drivers include 2 cents per hour or one-tenth of a cent per mile due under the Little Steel formula, and 5 cents an hour or two-tenths of a cent per mile in lieu of overtime and expenses or additional expenses while away from home.



This is the new type Army ambulance built on a truck chassis with special springs, for use in general hospitals in this country. It has a 134 in. wheelbase and dual rear wheels. The special springs and shock absorbers have been deflected to improve riding

(TURN TO PAGE 312, PLEASE)

We have had numerous inquiries from manufacturers who are looking for some product to build for the automotive field when peace comes. Others have advised us that they have a product they intend to introduce in this field after the war. So—

If You Want
An Automotive Product
To Manufacture
AFTER THE WAR
or
If You Have One
To Submit
To The Industry

Contact

CHILTON Post-War Products

Clearing House Division

Chestnut & 56th Sts. Philadelphia 39, Pa.

MOTOR TRANSPORTATION
...A VAST INDUSTRY
BUT WHERE WOULD IT BE WITHOUT GREASE!

Of course you know it as well as anyone — without proper lubrication trucks would cease to operate. Grease has kept the transportation industry going. Grease is important — and equally important is lubricating equipment. It's good business to have efficient, dependable equipment—to get the right grease, to the right place, in the right way.



Illustrated is the Graco air operated 100 lb. pressure chassis lubricator, exceptionally useful for general lubricating. It has a 36-1 ratio pump and is equipped with six-foot extreme pressure hose, control valve, swivel, air line coupler, 8" hydraulic adapter and 7" needle adapter. Where extreme pressure is needed, it can be furnished with 50-1 ratio pump and super charger. Similar models of dolly type or for stationary purposes are available. Write for Graco catalog No. A111

GRACO PRODUCTS

GRAY COMPANY, INC.
MINNEAPOLIS MINNESOTA

Solder with RUBYFLUID

FAST ACTING FLUX!

to withstand car jolts, vibrations

When car repairs must be made, make them able to "take it"—for it's vital that America's trucks and transportation in general be kept on the job. When the work calls for soldering, do it the quick, easy, enduring way with the aid of that standby of metal workers—RUBYFLUID.

The strong soldered joints made with Rubyfluid Flux have what it takes to stand up under tough going. They're made fast and they hold fast. No fuss — no delay — no harmful or disagreeable fumes.

Made to government specifications, Rubyfluid Flux comes in two forms, to suit your preference. In paste and in liquid.



In paste or in liquid form to suit your preference.



Order from your jobber or direct

RUBY CHEMICAL CO.
64 McDowell St., Columbus, O.

Rubyfluid

Oldforge QUALITY TOOLS

Tools must be good today because they have to last longer and take greater punishment. The tools we offer are all that the name implies—QUALITY TOOLS—and the name on the tool is your assurance of a sound and wise purchase. We don't write guarantees—we build them.

QUALITY TOOLS are made for use in Fleet Shops, Automotive and Aviation Industries and the Maintenance Shops of our Armed Forces.

Contact your Jobber or write for catalog today

QUALITY TOOLS CORP. *New Wilmington, Pa.*

UNITS AVAILABLE

To holders of Certificate of Transfer P. D. 321, or Government Exemption Permit P. D. 322

GRICO

2-AXLE DRIVE

19842 W. Eight Mile Rd. Detroit 19, Michigan

CLASSIFIED ADVERTISEMENTS

AUTO MECHANICS: PROVEN NEW ONE-MINUTE METHOD TO REMOVE ALUMINUM HEAD FROM FORD MOTORS WITHOUT TOOLS. FULL INSTRUCTIONS, $1.00. WALTHAM TIRE EXCHANGE, 614 MOODY STREET, WALTHAM, MASS.

WANTED: MOTOR TRUCK SUPERVISOR TO ASSIST IN SUPERVISION OF NATIONALLY OPERATED TRUCK FLEET. MUST BE FAMILIAR WITH OPA AND ODT REGULATIONS, PARTS AND SUPPLY PROCUREMENT, AND TIRE AND MECHANICAL MAINTENANCE. IN REPLY STATE AGE, DRAFT STATUS, EXPERIENCE AND SALARY DESIRED. BOX 58, COMMERCIAL CAR JOURNAL, CHESTNUT & 56TH STS., PHILADELPHIA 39, PA.

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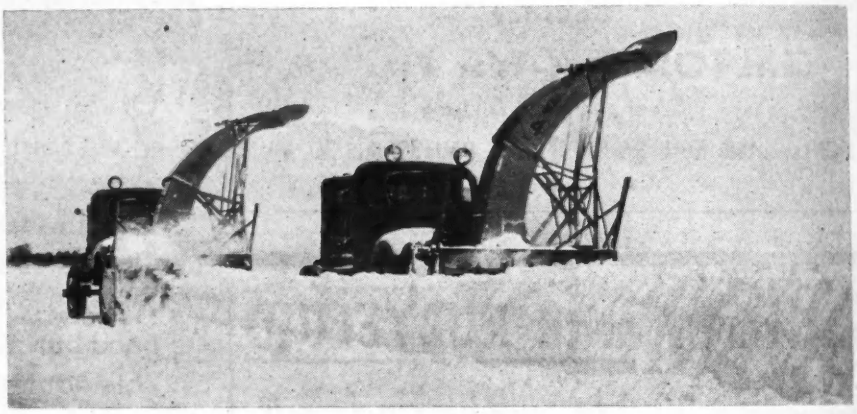
(CONTINUED FROM PAGE 310)

Baldwin Heads NAPA

Earl S. Baldwin, of Columbus, Ohio, was elected president of the National Automotive Parts Association at the annual meeting of the organization. Mr. Baldwin is president of the Automotive Parts Co. F. E. Nolen, Colyear Motor Sales Co., Los Angeles, was named vice president, and Henry Lansdale was re-elected vice-president and general manager.

In his annual report, Mr. Lansdale disclosed that 1943 had shown a further increase in NAPA warehouse sales, surpassing the 1942 record. In general sessions and committee meetings emphasis was placed on increasing the efficiency of distribution of automotive parts and supplies.

(TURN TO PAGE 314, PLEASE)



Six of these Sno-gos are used on the Willow Run airport to blow snow from the runways. During this snow storm, in February, 1944, 35 trucks were kept busy at one time hauling snow from the field

TRUCK ENGINEERING TRAILERS

SEMI-TRAILER FLATS — DUMPS — VANS
POLE TRAILERS—MACHINERY TRAILERS

AVAILABLE FOR SALE TO AUTHORIZED USERS AND DEALERS

TRUCK ENGINEERING CORPORATION
CLEVELAND, OHIO

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

KATHANODE

THE ORIGINAL SPUN GLASS BATTERY

THE KATHANODE CORPORATION, CHICAGO, ILL.



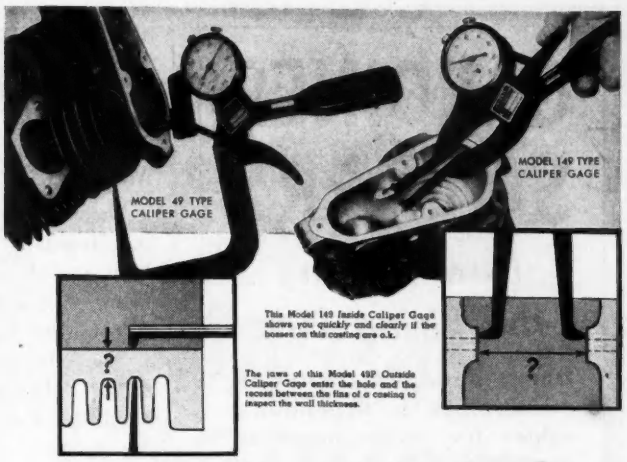
Specify **KATHANODE** for all battery replacements. Kathanodes cut operating costs in bus and truck service.

The Finest
Truck Body Insulation
YOU CAN'T GET!

DRY-ZERO

● You can't get DRY-ZERO because all the Ceiba fibre that makes DRY-ZERO the outstanding insulation for truck bodies is needed by Uncle Sam for life-saving equipment and aircraft. When peace comes and Ceiba fibre is again available, specify DRY-ZERO in your new equipment. DRY-ZERO is water repellent, vermin-proof, *seven times lighter* than commercial corkboard, has low thermal conductivity of only .24 B. T. U.

DRY-ZERO CORPORATION
Merchandise Mart • Chicago



The Easiest Way to Inspect
OUTSIDE *and* INSIDE
DIMENSIONS - - - - -

The jaws of these gages can be made to get into practically any conceivable place and tell you whether a dimension is right or wrong — and how much wrong. They can be furnished for comparing dimensions or for direct measurements.

Used in checking patterns, cores, castings, forgings, tubing, shells, bottles, plastic shapes, etc. Ask us about a gage with jaws designed to fit your work.

FEDERAL PRODUCTS CORPORATION
1144 Eddy Street, Providence 1, R. I.

★ ★ ★ ★ ★ **FEDERAL** ★ ★ ★ ★ ★
PRECISION MEASURING INSTRUMENTS

Someday you will be able to buy ANY and ALL

"KING" TESTING UNITS

Through "KING" Jobbers we can supply a limited amount of certain Testing Equipment without a priority rating. It is impossible to supply unlimited amounts of Testing Equipment because the WPB does not even permit the manufacture of many important items. They only permit us to manufacture 20% of certain items and 75% of other items. Present restrictions may be lifted in the near future so that we will be able to supply more than the percentages given above. Would suggest that you consult the "KING" Jobber in your territory for list of available items.



Ask Your Jobber or Write Us

The ELECTRIC HEAT CONTROL Co.
9127 INMAN AVENUE • CLEVELAND 5, OHIO

GOOD "KING" PRODUCTS SINCE 1914



Knock - Out UTILITY VALVE SEAT GRINDERS are in a class by themselves. Light, fast and accurate, simple and efficient to operate.

The K-O UTILITY VALVE SEAT GRINDER with all attachments costs no more than other *single purpose* seat grinders.

The tool with 101 uses!

+ Grinds valve seats
+ Carbon removing
+ Tool post grinding
+ Abrasive disc grinding
+ Miscellaneous hand grinding

See your nearest K-O jobber or write for Bulletin No. 2-44

K. O. LEE CO.
ABERDEEN, SOUTH DAKOTA

GARDINER SOLDERS

Now Serving the Firing Line

Due to war needs, materials essential to a dependable solder for utility purposes just isn't available for civilian use. Therefore, until Uncle Sam says OK, we are only able to supply our Jobbers and Dealers with Gardiner Quality Solders to a limited extent.

Gardiner METAL CO.

4820 S. CAMPBELL AVE., CHICAGO, ILL.

★ The Industry's Choice ★

Genuine BOLSER *Hares*

★ FLAGS ★ CLEARANCE LIGHTS ★ REFLECTORS ★ REAR VIEW MIRRORS ★ DIRECTION SIGNALS ★ FUSEES ★ OIL FILTERS AND REPLACEMENT CARTRIDGES.

BOLSER CORPORATION
Cedar Falls, Iowa

OVER 70% OF ALL MAKES OF TRUCKS AND BUSES ARE *Zollner* EQUIPPED

ZOLLNER

HEAVY DUTY PISTONS

ZOLLNER MACHINE WORKS FORT WAYNE, IND

CCJ NEWSCAST

(CONTINUED FROM PAGE 312)

National Transportation Meetings Dates Set by SAE

Two national transportation and maintenance meetings, one in the East and the other in the West, have been scheduled by the Society of Automotive Engineers.

The eastern meeting will be held at the Bellevue-Stratford Hotel, Philadelphia, Pa., June 28 and 29, and the western meeting at the Multnomah Hotel, Portland, Ore., Aug. 24 and 25.

The society's annual meeting has been scheduled for Jan. 8 to 12, 1945, at the Book-Cadillac Hotel, Detroit, Mich.

Anti-Freeze Plans

To conserve ethyl alcohol supplies, WPB's Chemicals Bureau is now planning to use as much methyl alcohol as possible in anti-freezes next winter.



J. P. Heil, president, The Heil Co., Milwaukee, presents Tom Burress, Tank Division sales manager with a gold watch and his congratulations on rounding out 25 years of service with the company, 15 as sales manager

Byerly Joins Staff of Private Carrier Council

A. M. Grean, Jr., president of the National Council of Private Motor Truck Owners, has announced the employment of H. Scott Byerly as

(TURN TO PAGE 316, PLEASE)

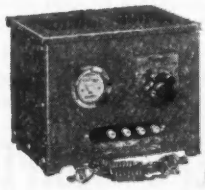
McCREARY TIRES

"Built for Longer Service"

BALDOR

BATTERY CHARGERS

Improved ventilation for cool operation, longer life and greater efficiency. They stand the strain of peak loads and are fully guaranteed.



Price, less bulb, $28.00

BALDOR ELECTRIC CO.
4340 Duncan Ave.,
ST. LOUIS 10, MO.

HEAVY DUTY MOTOR TRUCKS

AND

GASOLINE ELECTRIC GENERATING SETS

DUPLEX TRUCK COMPANY

Lansing, Michigan

The Spot Lite is on KEX TIRE PLUGS

The Perfect Puncture Seal for Synthetic and Natural Rubber Casings. Three sizes meet all needs

ASK YOUR SUPPLY HOUSE



The WEDLER-SHUFORD CO
ST. LOUIS, MO.



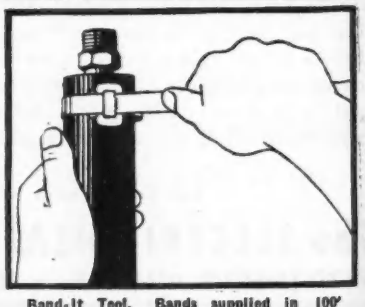
Tal's Pipe Bender. Style 2 bends ⅜" to 2" pipe. Style 3, ⅝" to 3" pipe. Complete, ready to use.

Pipe Bender That Bends Pipe Cold
Band-It Tool That Bands Everything

TAL'S PIPE BENDER bends pipe ⅜" to 3" dia. Produces smooth, uniform bends. Hydraulic principle makes it easy to operate with one hand. Compact. Portable. Eliminates elbows, fittings. Saves critical materials.

BAND-IT TOOL bands everything — hose, pipe, boxes, barrels. With steel band and buckles to fit, Band-It repairs leaks or breaks in pipe or hose. Useful for binding, supporting, reinforcing. Bands any dia. from ¼" to 30". Soon saves its cost. *Request Details*

AMERACO Industrial Specialties
122 S. Michigan Ave., Dept. O, CHICAGO 3, ILL.



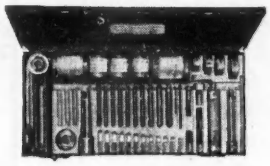
Band-It Tool. Bands supplied in 100' rolls, ⅜", ½", ⅝", ¾" and buckles to fit.



Leaders In The Field For Over 18 Years!

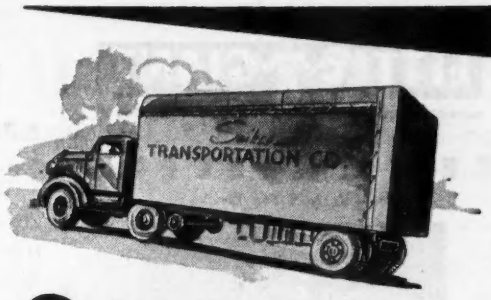
Chromalloy or Standard Valve Seat Rings available to fit all makes of cars, trucks, and tractors. Write for Bulletin VSR41— CCJ.

Valve Insert Tools to service all makes of cars, trucks, and tractors. Write for Bulletin R40— CCJ.



KNOCK-OUT KO

K. O. LEE COMPANY
ABERDEEN SOUTH DAKOTA



CANVAS PRODUCTS

When V Day comes, we will turn our skills to the manufacture of the best in Canvas Covers, Tarpaulins, and other items for Industry, Transportation, and Recreation.

WATERHOUSE COMPANY
WEBSTER, MASS.

STOP THAT LEAK

Small leaks in the piping from your air compressor cost money and make your compressor operate unnecessarily. A pin hole in a pipe line will cost you about $3 a month figured on a power cost of 5¢ per kilowatt. Save money by making these checks:

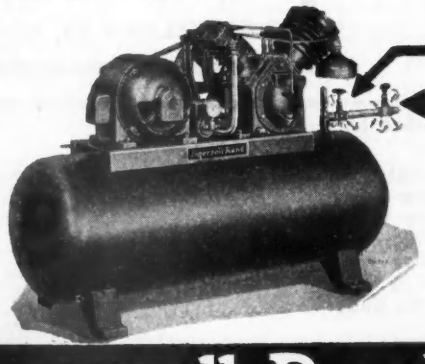
1 Check your air lines from the compressor every 2 or 3 months. Oil squirted on pipe joints will show up leaks.

2 Shut off tools such as grease guns and spring sprayers by closing the valve on the pipe line.

3 If your compressor will not hold its pressure when no air is being used, there is a leak somewhere. If the unit is equipped with a check valve, it may be dirt in the valve.

All Ingersoll-Rand plants have received the Army-Navy "E" for their part in the war production effort.

STOP LEAKS



3-261

Ingersoll-Rand
11 BROADWAY, NEW YORK, N. Y.

Yes, we have brand new TRAILER VANS

Below Ceiling Prices!

We have in our stock pile at Louisville one lot of brand new dependable, light weight Kingham-Universal Trailers that must be sold immediately—and below ceiling prices.

- Sizes range from 20 ft. to 28 ft. long
- All have Pre-War tires
- A certificate of Transfer is necessary (PD-321)
- Immediate Delivery
- Act Today—Phone, Wire or Write

EXTRA!——EXTRA!——EXTRA!
We are now manufacturing rack and platform bodies mounted on Semi, Tandem and Four Wheel Trailers for Civilian Use. See your nearest Kingham Distributor or Write direct to us.

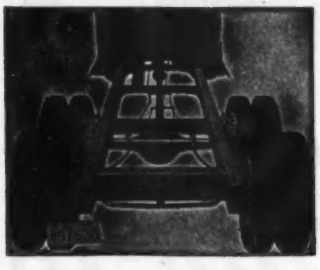
"A load behind is a trip ahead"

National Sales Kingham UNIVERSAL *National Service*

KINGHAM TRAILER CO.
INCORPORATED
LOUISVILLE KENTUCKY

LITTLE GIANT
AUTOMOTIVE TRUCK EQUIPMENT

TEN WHEELERS
for 1½ to 5 Ton Trucks



Greater tonnage . . . more profit. Increase carrying capacity up to 20 tons. Extend frame to any desired length. Load kept in perfect balance . . . no teeter or end-sway. Simple, sturdy, no intricate parts. Timken bearings; steel castings; hydraulic brakes. Easily installed in 3 hours. 3 sizes. *LOW COST. No priority rating required.*

Also makers Little Giant Frame Extensions, Hand Hoists, Wrecking Cranes.

Write for Circulars, Low Prices

LITTLE GIANT PRODUCTS, INC.
1532 No. Adams Peoria, Illinois

FRINK
SNO-PLOWS
Both "V" TYPE and
ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ to 10 TONS
Write for catalog 38AC and 38BC with discount to truck dealers
CARL H. FRINK, Mfr., CLAYTON, 1000 Isl., N. Y.
DAVENPORT-BESLER CORP., DAVENPORT, IOWA
FRINK SNO-PLOWS OF CAN. Ltd., TORONTO, ONT.

INNER-SEAL
WATERPROOF
WEATHER STRIPPING
Inner Seal
for
PASSENGER
COMFORT
BRIDGEPORT FABRICS, INC.
BRIDGEPORT CONN.

CCJ NEWSCAST

(CONTINUED FROM PAGE 314)

assistant to Leon F. Banigan, managing director.

With a background of more than 20 years of experience in traffic and transportation work in Washington, Mr. Byerly, a graduate of Georgetown Law School, early in 1942 became chief of the Transportation Section of the WPB Beverages and Tobacco Branch and later traffic consultant with the Transportation Branch of the WPB Stockpiling and Transportation Division.

For six years preceding his war appointment, Mr. Byerly rendered special traffic advisory, legal and other services to a clientele of shippers, carriers and trade associations. He was associated for 14 years with the Traffic Service Corp., publishers of *Traffic World*, as news reporter and special service consultant.

Personnel Changes

Paul H. Townsend, vice-president and general manager of Huron Portland Cement Co., has been elected a director of Federal Motor Truck Co., succeeding the late Frank H. Whelden.

Selby F. Greer, formerly with the Borg-Warner Service Parts Co., has joined the Kellogg Division of the American Brake Shoe Company, Rochester, N. Y., as assistant general sales manager.

R. L. Sears has been appointed sales manager of the PAR division of Lynch Mfg. Corp., Defiance, Ohio. He was for 23 years associated with the Sherwin-Williams Co.

John L. Mullen, with National Carbon Co., Inc., since 1924, has been

(TURN TO PAGE 318, PLEASE)

HOLLAND



Full Floating
Semi-Automatic
FIFTH WHEEL
Engineered for toughest kinds of use under all possible conditions — 30" — 33" — 36" sizes — Rubber mounted — One-man operation — Exclusive lock; that grips both neck and shoulder of king pin.
HOLLAND HITCH COMPANY
HOLLAND, MICHIGAN, U.S.A.



VICTOR
GASKETS, OIL SEALS
GREASE RETAINERS

Dart Trucks
HEAVY DUTY FOR
OFF THE HIGHWAY SERVICE
— Specially Designed for —
Coal Mining—Iron Ore Mining—Copper Mining—Pit and Quarry—Logging—Oil Fields—Etc.
It Costs No More for Trucks Specially Built to Fit Your Needs. Have Our Engineers Visit and Analyze Your Operation.
DART TRUCK COMPANY
KANSAS CITY, MO.

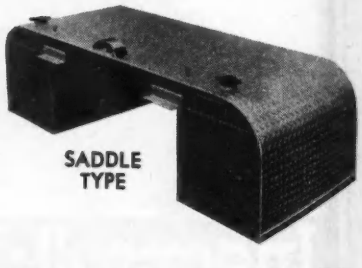
ANY MOTOR TRANSPORT
HEATING PROBLEMS?
Consult our Engineers
HUNTER AND COMPANY
1560 East 17th Street,
CLEVELAND 14, OHIO


CYLINDER TYPE

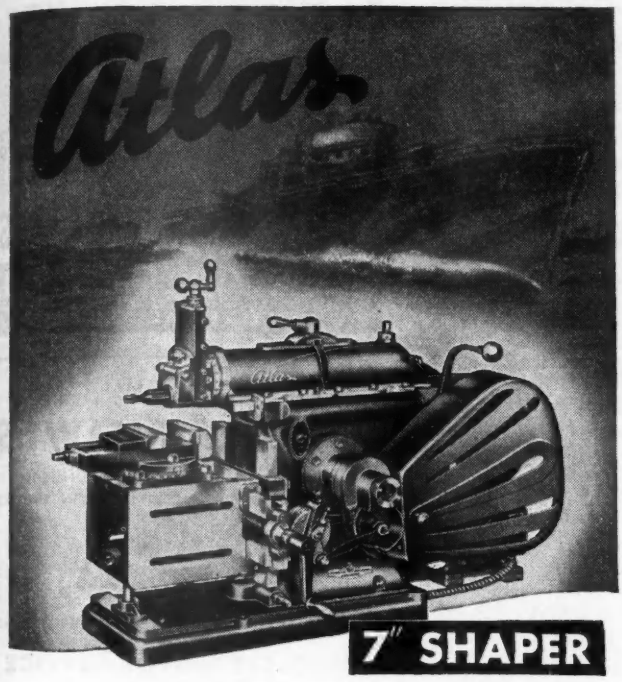
You must get the MOST from your present truck equipment to keep War Material moving.

Large capacity SNYDER (patented) Safety Fuel Tanks will eliminate unnecessary refueling delays. By the use of the Flame Guard Safety Valve (standard on all Snyder tanks) added protection is afforded against fire hazards. Capacities range from 28 to 50 gallons in the cylinder type; 75 to 125 gallons in the saddle type. Approved by the Underwriters' Laboratories, Inc.

Distributed in all principal cities. Write for descriptive literature.


SADDLE TYPE

SNYDER MANUFACTURING CO. Dept. CC BUFFALO, N. Y.

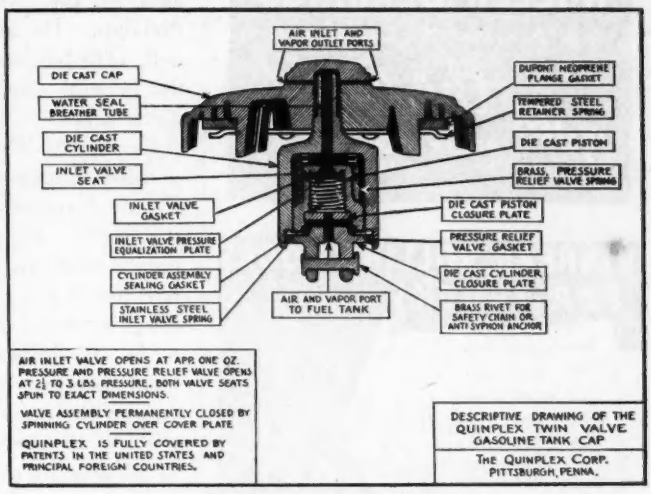


Millions of cars and trucks are getting older by the minute . . . needing the very repairs and parts you can make in your own shop with Atlas machine tools! You'll find the low-cost Atlas 7" Shaper just as handy and profitable as the thousands of Atlas Lathes now in automotive service. Atlas Press Co., 442 N. Pitcher St., Kalamazoo 13D, Mich.

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QUINPLEX

Twin Valve Gasoline Tank Pressure Caps



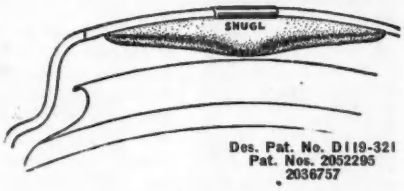
are performing valuable service on motorized equipment of the United States Army, both at home and abroad. After the war, they will again serve you in helping to win the battle of gasoline economy, better engine performance, and longer engine life! Quinplex Caps eliminate vapor lock, evaporation loss, and excessive crankcase dilution. Quinplex is fully patented in the United States, Canada, and several foreign countries.

The QUINPLEX CORPORATION
Pittsburgh, Pennsylvania

THAT CRITICAL TIRE PERIOD IS HERE NOW!

The time you have been dreading has arrived. Perhaps those tires you have been saving have now had to come out of stock and you know you can't get any more like them for a long time—So what?

Well, careful operators are insisting that every wheel assembly be in balance to prevent excessive tire wear, and they have found from experience that "SNUGL" balance weights, the weights the government uses, are *best* for the job. Built with a dove-tail clip-steel against steel on each side of rim, "SNUGLS" cannot come off, work loose or rattle. Easy to install, they are streamlined to make dynamic balancing easy.



Des. Pat. No. D119-321
Pat. Nos. 2052295
2036757

Available in sizes ½ oz. to 32 oz.

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Over 40 Years . . .

PREFERRED AS A SOURCE OF WASHERS

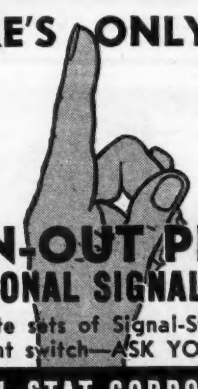
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Many special and standard sizes of dies in stock. No die charge for these.

1903 Literature on Request **1944**

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1685 W. LAFAYETTE BLVD. • DETROIT 16, MICHIGAN

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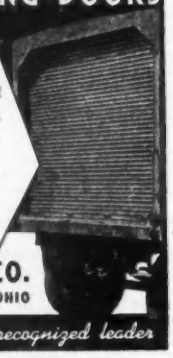


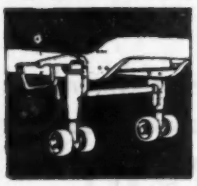
BURN-OUT PROOF DIRECTIONAL SIGNAL SWITCH

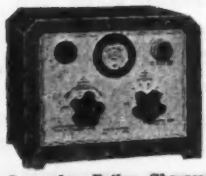
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help Transport Men and Materiel
over the Road
ROLLER BEARING COMPANY of AMERICA
TRENTON . . . NEW JERSEY

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Save space! Open upward! Coil out of way. Always safe from wind. Can't joggle open! Less chance of damage to doors. All Metal. Fireproof! Prevent thefts. Write for details.

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AUSTIN
THE ACCEPTED STANDARD . . .
A complete line of LANDING GEARS . . . HORIZONTAL, VERTICAL and FOLDING TYPES

Write for complete information on "SAFETY PROPS" and FIFTH WHEELS
AUSTIN TRAILER EQUIPMENT COMPANY MUSKEGON MICHIGAN

VALLEY CHARGERS HAVE Gone To War

For the Duration . . . we will not be able to supply Valley Chargers to our many customers and prospects because our war production demands, otherwise, take up our entire facilities.
Remember Valley Chargers . . . when we can again supply you with these simple, efficient and economical battery-charging units.
Valley
VALLEY ELECTRIC CORP.
4221 Forest Park Blvd., St. Louis, Mo.

PERSONNEL CHANGES

(CONTINUED FROM PAGE 316)

appointed Atlanta district sales manager of the company's "Eveready" division. He succeeds Frank Warnell, who has now been promoted to the general sales department in New York City.

George A. Wiedemer has been appointed manager of Accessories and Repair Materials Sales for Seiberling Rubber Co. Ellsworth H. Whims was named assistant manager of the department. The appointments fill vacancies created by the recent election of W. P. Seiberling, former department manager, to the office of secretary of the company.

R. V. Hessler resigned his position as advertising manager and sales representative of the Spicer Mfg. Corp., and now is associated with Timken-Detroit Axle Co., Detroit.

Milton A. Holmes, formerly active as a truck company sales executive, has been appointed acting Detroit regional manager for the Smaller War Plants Corp. He was vice-president and general sales manager of Republic Motor Truck Co. for five years and in charge of the Reo Motor Car Co. truck division for two years.



Miles Powell newly appointed field manager of the WHIZ Automotive Division of the R. M. Hollingshead Corp., celebrates his 20th anniversary with the company this year

Fred C. Smith, assistant sales manager of The McKay Co., Pittsburgh and York, Pa., promoted to general sales manager.

(TURN TO PAGE 320, PLEASE)

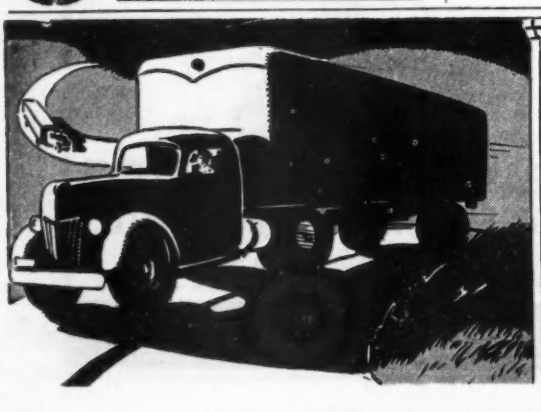
Specify Velvetouch
BIMETALLIC FRICTION MATERIAL for CLUTCHES AND BRAKES
THE S. K. WELLMAN CO.
CLEVELAND, OHIO

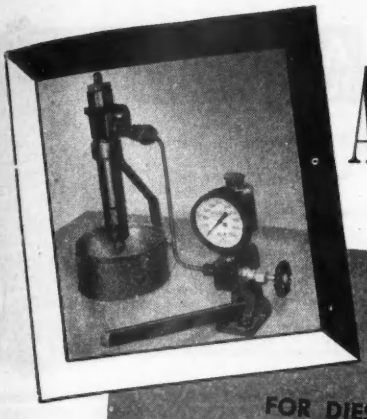
FOR SALE
DODGE COWLS
FLAT FACE, LATE MODEL, UNUSED. MFG. BY DODGE FOR ½ to 2 TON TRUCKS
CABS
ALL MAKES, UNUSED
FRAME EXTENSIONS AND CONVERSIONS
WICKETT MOTOR SERVICE
RICHMOND, IND.

I USE WOHLERT PARTS, BECAUSE THEY ARE IDENTIFIED ON THE PACKAGE
SO DO I, AND THEY'RE ENGINEERED TO FIT TOO!
Wohlert CORPORATION LANSING MICHIGAN

Gabriel
HYDRAULIC SHOCK ABSORBERS

The GABRIEL Company
ESTABLISHED 1904 • CLEVELAND 14, OHIO


"Your Plans for Tomorrow Require Planned Safety Today!"
AMERICAN SAFETY TANK CO.
KANSAS CITY, MO.



ADECO

NOZZLE TESTER

FOR DIESEL ENGINES AND HYDRAULIC DEVICES

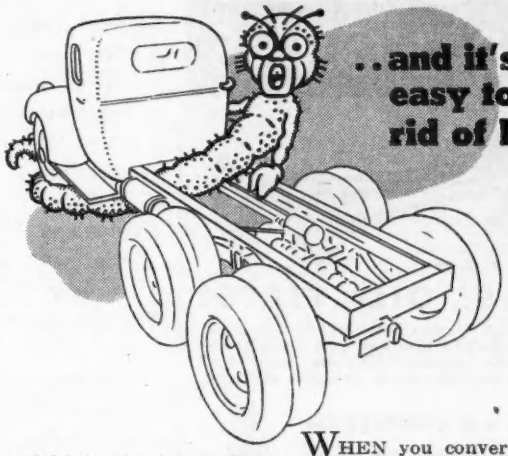
KEEP DIESEL ENGINES RUNNING AT PEAK EFFICIENCY

Here is America's most widely used Nozzle Tester. Compact. Portable. Light in weight. Easy to use. Accurate. Tests fuel injectors on bench or engine; also tests hydraulic devices, valves and accumulators against leakage, at pressures up to 10,000 p.s.i. Avoids costly delays and possible damage to engine. Keeps diesels running at peak efficiency.

Write for new illustrated bulletin.

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Manufacturers of Diesel Pumps, Injectors, Nozzles, Nozzle Holders, etc.

Perfect Conversion - -
—except for "Elmer"



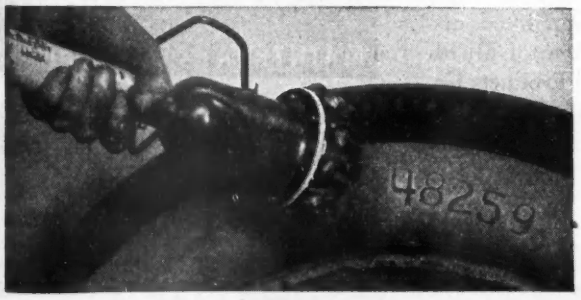
..and it's easy to get rid of him!

WHEN you convert a light weight truck chassis for heavy wartime duty, "rear end" conversion is not enough! If you ignore the steering geometry, "bugs" are bound to develop—resulting in strain on hard-pressed drivers, in extra wear on tires, and in decreased efficiency. However, at the time the conversion is planned, Superior Universal experts in steering geometry can show you how to forestall possible difficulties by recommending the correct Superior Universal steering connections to install. Write today.

TIE RODS • DRAG LINKS • RADIUS RODS

SUPERIOR UNIVERSAL PRODUCTS
Division of Superior Coach Corporation
LIMA, OHIO

WILL YOU BE ABLE TO KEEP THEM ROLLING?

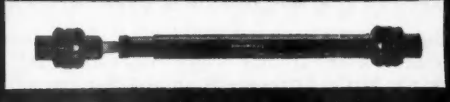


That critical period you have been dreading has now arrived. Are you going to be able to keep your trucks rolling? Every one of them is needed. There will not be enough new truck tires to go around in 1944. This means you *must* get every ounce of wear from your present tires if your trucks are to be kept on the road. Let us help you conserve your tires. With a regular inspection schedule, and the use of an Everhot Branding Iron and Tire record System to make your inspections easier, you can know at all times the condition of each tire in your fleet. Send for descriptive circular and sample forms today.

Priced at only $35.00 f.o.b. — Maywood, Illinois

Everhot MFG. CO., Maywood, Ill.

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ALMETAL
UNIVERSAL JOINT
POWER TAKEOFF DRIVE



ALMETAL Joints for Industrial and Automotive applications are helping to produce essential material and move wartime loads.

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MODEL 80-AD 6-12-220 VOLT

Quick Charge
BATTERY CHARGER

An ideal unit for users of both 6 and 12 volt batteries. Charges batteries in 15 to 45 minutes. Completely automatic . . . operation is simple and economical. Sturdily constructed and beautifully finished.



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SAVE—
GAS! OIL! TIRES!

Buell High Pressure Air Horns have a powerful, penetrating tone that gets attention and commands respect. Eliminate many time-wasting stops and starts. Available on Priority.

BUELL AIR COMPRESSOR

Used on bomber and fighter planes to operate brakes and machine guns. Precision workmanship assures long, dependable service without frequent parts replacement.



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TIRE CHAINS
GREATER MILEAGE · GREATER SAFETY
INTERNATIONAL CHAIN AND MFG CO
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Bowman
BRIGHT BEAM
***Plastic* LENSES**
for PERMANENCE

Try this experiment on your present lens—then try it on ours and you will understand what we mean by permanence. They're economical, too. Be sure to replace broken lenses with Bowman's. Made in two colors, red and amber (that will not fade). They are weather proof and have glass like transparency. Ask your Jobber or write us direct.

BOWMAN AUTOMOTIVE PLASTICS CO.
4316 W. 192nd Street, Cleveland 16, Ohio

PERSONNEL CHANGES

(CONTINUED FROM PAGE 318)

Alton Parker Hall, of Bethlehem Steel, appointed assistant g. m. of American Chain & Cable Co. sales.

AC Spark Plug Co., in a major expansion move in the replacement sales organization, announced the creation of three special assistants to Wilson S. Isherwood, general sales manager. They are: John C. Hiles, who will specialize on spark plugs; Alpheus S. Holmes, who will specialize on oil filters; Richard E. Merrell, who will specialize on fuel pumps, speedometers and related items. The expansion also involves the following five sales executives: Eugene B. Powell, Los Angeles regional manager goes to Philadelphia, succeeding Hines; Harold L. Wardrop, zone manager, succeeds Powell; James F. Kingsley, Atlanta regional manager, goes to New York in the same capacity as successor to Holmes; William F. Parker, former sales executive at Flint takes Kingsley's place; Edgar H. Francois, zone manager, succeeds Merrell as regional manager in Chicago.

Lloyd A. Rosenbrock, former Reo truck distributor, appointed regional manager for southeast division of Fruehauf Trailer Co.

Lewis W. Stafford appointed district manager for the state of Michigan by The Toledo Steel Products Co.

William R. Brightmire, L. J. Miley Co., Inc., promoted to assistant sales manager.



George C. Valentine, formerly with Electric Auto-Lite, now district manager of Pennsylvania Rubber's Virginia, District of Columbia and Delaware territories

AUTOPULSE
ELECTRIC FUEL PUMP

- Uninterrupted Schedules
- Instant Starting
- Greater Economy
- No Vapor Lock
- Added Protection



AUTOPULSE CORP., DETROIT MICH

COLD WELD YOUR
CRACKED BLOCKS & HEADS
BY THE K&W METHOD

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A GREAT NAME IN
★ BRAKE
★ ENGINE
★ CLUTCH
MAINTENANCE EQUIPMENT

KEYSTONE TRAILER
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KANSAS CITY, MO.

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The TRAILER THAT LEADS



STERLING MOTORS CORPORATION, MILWAUKEE 1, WIS.
Branches and Distributors in Principal Cities.

THE TRUCK WITH A PLAN BEHIND IT

When a STERLING takes its place in your fleet it carries with it not only the original STERLING quality but a future safeguard for its service life . . . the STERLING Complete Truck Service.

Planned and maintained by experts, the Service offers a comprehensive parts stock, rebuilding facilities and a complete road service.

Write today for data on chassis, the production of which has been authorized.